

Maturity and Supportability of Regional Innovation Value Networks

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Judith McCrory
ValueNetworks.com
Email: judith.mccrory@euro-focus.com

Verna Allee
ValueNetworks.com

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Abstract

Increasingly organizations are tasked to identify, support, and architect innovation networks. The concept of value networks has been used multiple times to achieve this. The underlying challenge is to discover how these value networks self-organize and how their behaviour can be nurtured in the desired direction. This paper is part of a series of papers which describe various methodologies to design and implement interventions that sustainably influence the development of the value networks. Topics include website analysis, intellectual capital indicators, archetypes of innovation networks, and quantitative value network and social network indicators.

Value networks patterns of behaviour are described along two key dimensions: supportability and maturity. The maturity and supportability grid is a framework which helps in identifying improvement measures for the supportability or even manageability of the network. The underlying models have been developed over the last four years through various case studies.

Keywords: value network analysis, value network, maturity models, social network analysis, innovation network, research networks, regional innovation, value creation, Ucinet TM, Pajek TM, ValueNetworks.com TM

Introduction

The Value Network Maturity and Supportability Framework can be used to analyze business networks – both within organizational units and as industrial ecosystems. It allows taking appropriate measures to improve the efficiency of the value network.

The example used is that of a government agency that would like to improve the business development and innovation capability of a region. Key questions of the project were:

- Who to include in the communication
- Who is missing in the current network that could make it more effective
- How to make the innovation network collaborate sustainably and be more efficient

The model was used at a later phase in the project where the regional innovation network was plotted against the Maturity and Supportability Model. This helped the project team to identify the gap between the "as is" condition of the value network compared to where it needs to be for optimization, addressing:

- Where are we?
- Where do we want to be?
- How do we get from here to there?

The goal is to increase the supportability and the maturity of the network in order to facilitate control and manageability. Ideally, network leaders like to compare the network to similar ecosystems and to improve practices suitable for their own system. In order to avoid creating a fragmented collaboration network with energies wasted, network leaders

need to develop a full understanding of the needs and behaviours of the different players - and with the right tools - to channel resources for optimal value creation.

The underlying models have been developed over the last four years through case studies such as the CESPRI (CESPRI, 2005) and Rand (ERAnets, 2004) studies for the European Commission, research projects on business collaboration such as the EU ICT-RTD Evaluation study (Allee et al, 2007), and the Region Skåne Business Development Study (VINNOVA 2009). Additionally, Knoll's Questionnaire results on mobile workers (Venezia, C., Allee V., Schwabe, O., 2008), supports the underlying theories as does a confidential consulting study on SAP's Industrial Value Network for Travel and Transportation in 2007.

Theory Base

The methodology was based on Value Network Analysis (VNA) (Allee 2002, 2003, 2008). VNA allows us to move beyond the structural aspects of the networks to understand patterns of behaviour in self-organization when guiding these networks into desired directions for greater value creation. Allee defines value networks as follows: *“Value Networks are sets of roles, interactions, and relationships generating economic, social, or environmental value. Any purposeful organization can be understood as a value network.”* (Allee, 2003)

The underlying philosophy of Value Network Analysis has its roots in Exchange theory founded by Homans (1958). It is a social psychological and sociological perspective that explains social change and stability as a process of negotiated exchanges between parties. Allee's approach to VNA departs from mainstream exchange theory, by linking the network to both financial and non-financial performance and asset generation for the network overall and at the level of individual roles and transactions.

Allee describes exchanges as tangible or intangible:

“Tangible transactions involving goods, services, or revenue, including but not limited to: physical goods, services, contracts, and invoices, return receipts of orders, requests for proposals, confirmations, or payments. Knowledge products or services that directly generate revenue, or that are expected (contractual) and paid for as a part of a service or good (such as reports or package inserts) are also considered as tangible exchanges.”

(Allee, 2002, p.3)

“Intangible knowledge and information exchanges that flow around and support the core product and service value chain, but are not contractual. Intangibles are those “little extras” people do that help keep things running smoothly and help build relationships. These include exchanges of strategic information, planning knowledge, process knowledge, technical know-how, collaborative design work, joint planning activities, and policy development.” (Allee, 2002, p.3)

In short, a value network is a representation of ties in a social network. The visual representation of a value network consists of:

- artificially delimited boundaries
- vertices representing Roles (Standard Value Network) or Participants (Collaborative Value Network)
- directed lines/arcs between the Roles or Participants
- ties which focus on tangible or intangible value exchanges between actors (transactions)
- line values which represent deliverables between Roles or Participants
- multiple lines

- no loops
- cognitive limit of 10 - 15 roles and 50 - 70 transactions

Figure 1 is an example of a value network of a business developer organization according to their website. Roles in the ovals are linked by dotted intangible transactions and solid line tangible transactions.

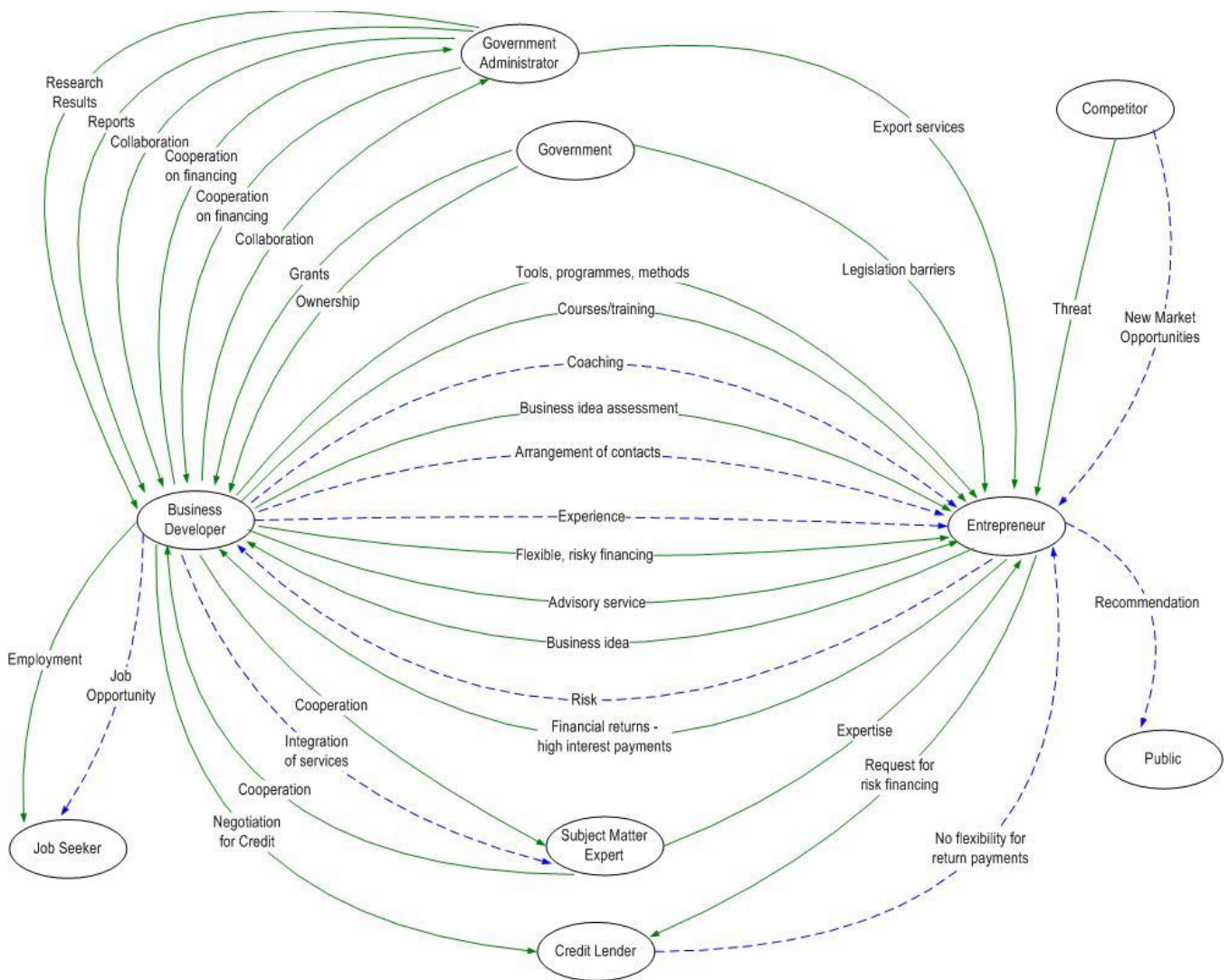


Figure 1: Value Network Example of a Website Value Network of a Business Developer

The Project

In the period April 2009 to June 2009 a value network evaluation was performed in a European region that we will refer to as Eurregion. The regional innovation system was explored from the perspective of a group of 48 companies providing supporting activities in regional innovation and business development. The aims of the evaluation were to:

- Learn more about how the intermediaries in the regional innovation system (RIS) function
- Provide participants in the RIS with a whole systems view
- Explore potential benchmarking directions
- Identify basic policies and procedures that support the RIS effectively
- Specify how collaboration technology can better support the RIS

The method was based on creating four perspectives:

- Web connectivity – how are websites linked technically?
- Web messaging – what message is communicated by a website?
- Web survey – what view of the network do its individual participants have?
- Interviews – can the emerging network patterns be verified as correct by its members?

Numerous profiles were established throughout the project. In this paper we will concentrate on the Value Network Maturity and Supportability Framework.

Maturity Model

Maturity implies the full development; or perfected condition. According to Henry Mintzberg “[t]he older the organization, the more formalized its behaviour. As organizations age, they tend to repeat their behaviours; as a result, these become more predictable and so more amenable to formalization.” (Mintzberg H, 1998, p. 252)

The EU ICT-RTD Evaluation (Allee et al, 2007) incorporated prior work of Allee to recognize different innovation value network behaviour patterns according to different maturities levels of a value network. Different levels of maturity require different support measures. The Allee Value Network Maturity Model is as follows in Table 1.

Table 1: Value Network Maturity Model (Allee et al., 2007)

VALUE NETWORK MATURITY MODEL	
Level 1. Initial Stage	
	It is characteristic of value networks at this stage that they are mostly undocumented and in a state of dynamic change. They tend to be driven in an ad hoc, uncontrolled and reactive manner by dominant participants or events. This provides an unstable environment for the value network. Informal relationships (intangibles) dominate. Transparency tends to be low.
Level 2. Repeatable Stage	
	At this level of maturity some sequences or flow paths are repeatable, possibly with consistent results. The flow paths may not repeat for all situations or scenarios. Clear Roles can be identified in the network. Although consistency and quality may be uneven, Roles are executed with regularity. Organizations may use basic management tools and practices to help execute roles or consistently complete particular sequences. Formal agreements are limited and apply only to the execution of specific transactions or isolated sequences.
Level 3. Defined Stage	
	It is characteristic of value networks at this level that there are sets of defined and documented standard sequences and specific transactions between Roles. These are installed with simple controls for improvement over time. Most Roles have established expectations, informal agreements and more rarely, contractual agreements with each other to establish consistency of performance. Such controls may apply to Role execution, or consistency of flow path sequences. Standards and guidelines are generally applied, with some tailoring if necessary.
Level 4. Managed Stage	

At this stage value network metrics are used effectively to control different flow paths and sequence variations. Managers and Role leaders can identify ways to adjust and adapt the flow paths to particular projects without measurable losses of quality or deviations from specifications. Participants in the value network engage in a network narrative with negotiation of Roles, Deliverables, flow paths, and sequences. Service level agreements between Roles are common. Some flow path agreements may involve multiple Roles.

Level 5. Optimizing Stage

It is characteristic of value networks at this level that there is a general focus on continually improving value network performance through both incremental and innovative changes and improvements. Appropriate technologies are deployed to execute all Roles effectively and complete transactions at the lowest possible cost with optimal speed. Roles, flow paths, and key sequences are continually monitored and measured for performance. The network narrative has expanded to where key Roles, often through explicit agreements cooperate to define and monitor overall network performance.

Maturity here stands for “How well is the network – the purpose, roles, and exchanges – defined?” As we can see from the description above, the majority of network behaviour changes throughout the value network life cycle. Some networks mature and others might disintegrate. Supportability on the other hand is a lot more static, as it is dependent on determining factors of the situation.

Supportability Model

Supportability implies the capability of being supported; to be maintainable. For value networks, supportability is the possibility to guide and facilitate a network to create a maximum of value with the resources available. Just as in any management situation, this is influenced by different factors such as 1) Resources and Capabilities; 2) Goals and Values; and 3) Organizational structure and systems (Grant, 2002). Below is a simple framework for Value Network Supportability Factors and relevant assessment questions:

Value Network Supportability Factors

1. Resources and Capabilities

Key Questions:

“Who and what is included in the network?”

“Are all roles and interactions systematically supported?”

Who and what is included in the network determines the area of support and therefore also the level of support. Networks are supported differently, depending whether the network consists of only a few roles comprising of one or two players, business units comprising 10 or more participants, or organizations representing 100 or 1000 participants.

At one end of the scale, we have **high-level** networks such as industry ecosystems, where we are looking at overall systemic features in a more abstract way. We are more concerned with the system as a whole than its individual components or sub-networks. The support or influence of a high-level network is executed by recommendations, role modelling, network communications on win-win scenarios, and agreements on standards, rules and regulations.

A much more focused support is possible when individual components are scrutinized at low-level descriptions of a value network. In these cases, due to the fact that we are looking at detail rather than overview, it is possible to support the network at operational level.

2. Goals and Values

Key Questions:

“Do we all follow the same values and objectives?”

“Is there a collective understanding of purpose?”

Small self-contained networks such as a business unit with a collective understanding of purpose and specific goals can be easily supported by its manager. Even in larger networks the more convergent the network understanding of its purpose, the more it can be supported by a facilitator to achieve its goals. In diffuse networks, each participant could have a different understanding of the network purpose or their role, specifically their goals and objectives. This means that supportability is more limited as it can be difficult to obtain agreements and decisions.

3. Organizational structure and systems

Key Question:

“Are there practices and tools in place to support and influence the network?”

Self contained networks within a well defined boundary lend themselves to formal structures of support which include, for example, strategy plans, performance measures, and performance appraisals. Short-term methods of facilitation are meetings and formal or informal communication. These measures are possible in a highly defined context with strong cultural norms. The use of these methods has an influence on the context and culture of the network itself.

In larger and more diffuse networks the behavior of a network can be influenced through communication and collaboration platforms. Additionally, role model behavior which sets new industry standards can influence the network behaviour.

Supportability stands for “How focused can the network be supported and guided?”

The Maturity and Supportability Questionnaire

The Maturity Model can easily be combined with the Supportability Model, making it possible to plot a landscape along these two dimensions (see figure 2). These dimensions can be assessed by thinking through the value network maturity and supportability statements as below. It is important to note though, that not all networks can and should move into high supportability/high maturity. Optimization is reaching the "sweet spot" in the matrix where the appropriate balance of structure and emergence allows a particular value network to operate at its best.

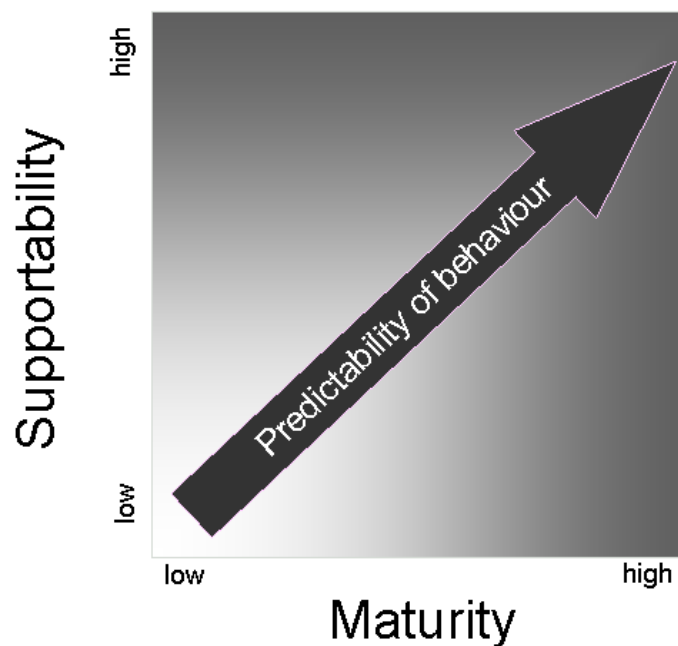


Figure 2: Predictability of Behavior in the Maturity and Supportability Grid

Maturity Statements

- The value network's processes are clearly defined or documented.
- The roles/participants are clearly defined and transparent to everybody.

- The value network's activities are proactively planned and monitored.
- The relationships between the roles are clearly defined.
- Transactions are transparent.
- The value flows are repeatable.
- The quality of deliverables is consistent.
- Roles are executed regularly.
- Roles have formal agreements between each other.
- There is no measurable loss of quality or deviation from all specifications of flow paths.
- All parts of the VN are affected by major improvement measures (process changes, resource changes, training, merger, alliances, outsourcing).

Supportability Statements

- The roles of the value network are supported by the same manager/board/institution.
- The roles are guided by the same strategy plan.
- The roles are guided by the same network performance measures.
- The roles are subject to performance appraisals with the same set of values.
- The roles have the same objective/goal.
- The roles the same understanding of the network's purpose.
- The roles are organized in a communication platform where they discuss collaboration within the network.
- All roles widely share business-specific knowledge.
- All roles belonging to the value network have been included.
- All resources are shared or negotiated without competition.

- All roles play an important role in this network.

Data Collection

The network information of the Eurregion RIS was assessed with the help of the questionnaire. Likert scale answers were used to allocate points: 10) true for all Roles, 7) for most ..., 3) for some..., 0) for no..., 0) not applicable. A higher score meant the network is more supportable and therefore provides a key performance indicator as to the stability and predictability of the network.

Additionally, based on the experiences of the analyst team an initial brief assessment of maturity and supportability of various regional innovation zones was made according to information on the websites listed in Table 2. They were chosen from The Global Knowledge Innovation Zone® Map (2009) to allow for comparison of scores (Table 3 and Table 4).

Table 2: List of Value Networks for Comparison

The Innovationhub
Desert Knowledge
UBC
Fredericton
Regents Board of Ohio

Table 3: Maturity Grid of Sample Value Networks

Mature Value Network

Statements	Eur-region	Ohio Board of Regents (CVN)	Innovation-hub	Desert-knowledge	UBC	Fredericton
The VNs processes are clearly predefined or documented.	Some	Some	Some	Some	Most	Some
The VNs roles/participants are clearly defined and transparent to everybody.	Some	Most	Some	Most	Most	Most
The VNs behavior is proactive.	Some	Most	Some	Most	Most	Some
The relationships between the roles are predefined.	Some	Some	None	Some	Some	Some
Transactions are transparent.	Some	Most	Some	Most	Some	Some
The flow paths are repeatable.	Some	Some	Some	Some	Some	Some
The quality of deliverables is consistent.	Some	NA	Some	Some	Some	Some
Roles are executed regularly.	Some	Most	Some	Some	Some	Some
Roles have formal agreements between each other.	Some	Most	Some	Some	Some	Some
There is no measurable loss of quality or deviation from all specifications of flow paths.	NA	Most	NA	NA	NA	NA
All parts of the VN are affected by major improvement measures (process changes, resource changes, training, merger, alliances, outsourcing).	None	Most	None	Most	Some	Some
All	0	0	0	0	0	0
Most	0	7	0	4	3	1
Some	9	3	8	6	7	9
Total	45	64	40	58	56	52

Table 4: Governance and Supportability Issues Grid Sample Value Networks

Supportability

Statements	Eur-region	Ohio Board of Regents (CVN)	Innovation-hub	Desert-knowledge	UBC	Fredericton
The roles of the VN are supported by the same manager/board/institution.	NA	All	None	Some	Some	All
The roles of the VN are guided by the same strategy plan.	Some	Some	None	Some	Some	Some
The roles of the VN are guided by the same performance measures.	NA	NA	None	NA	Some	NA
The roles of the VN are subject to performance appraisals with the same set of values.	NA	NA	None	NA	NA	NA
The roles of the VN have the same objective/goal.	Some	Most	Some	Most	Some	Some
The roles of the VN have the same understanding of the network's purpose.	Some	Most	Most	Most	Most	Some
The roles of the VN are organized in a communication platform where they discuss collaboration within the network.	Some	All	Some	Some	Most	Some
All roles widely share business-specific knowledge.	NA	Some	Some	Most	Most	Some
All roles belonging to the value network have been included.	Some	All	Some	Most	Most	Some
All resources are be shared without competition.	Some	Some	Some	Most	Some	Some
For all roles, this is the core value network.	None	None	Some	Some	None	None
All	0	3	0	0	0	1
Most	0	2	1	5	4	0
Some	6	3	6	4	5	7
Total	30	59	37	55	53	45

Findings and Implications

The figures calculated in Table 3 and 4 were plotted on the Value Network Maturity and Supportability Map (see Figure 3). The focus was the Eurregion (black). Grey contenders were the other regional innovation systems. The white examples were Valuenetworks.com case studies. The shading of the grid represents the manageability. The darker the shading, the easier to manage the network according to high supportability, high maturity or both.

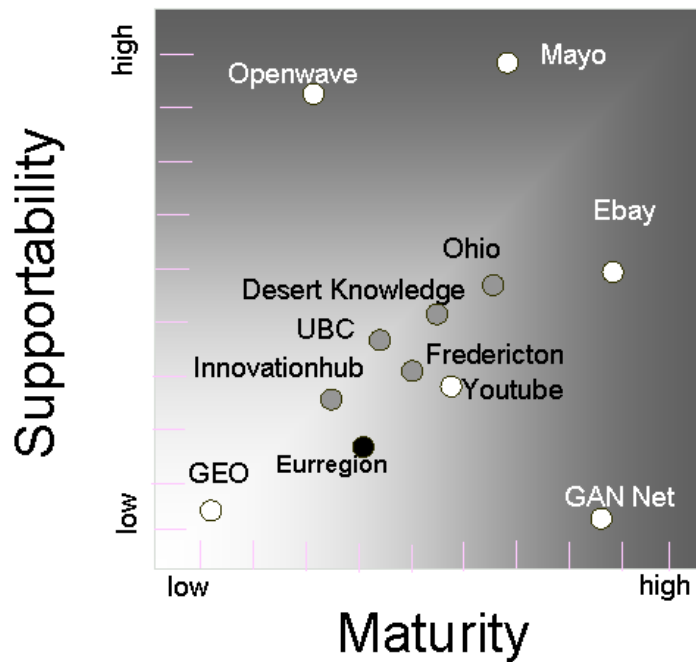


Figure 3: Value Network Maturity and Supportability Map of business development and regional innovation systems

The systems further in the top right corner are more clearly defined and the more focused their support than the systems in the bottom left corner. This does not imply though that all networks are able to or even need to move towards high supportability. Cross-border ecosystems such as Eurregion will always be lower on supportability than in-house

process networks such as the Mayo case study. Eurregion did not display high maturity or supportability levels due to the fact that it is a newly forming cross-border network that is still in negotiation over projects, roles, and programmes to be shared.

From a maturity perspective, the project findings showed that although the network was connected, the common objectives and purpose were not well defined. The strength and direction of connections between the different organisation differed, it was not one coherent whole. Due to the lack of structure, there are few dependencies, but also few synergies.

Supportability showed an equal level of looseness. There currently are very few structures in place which allow channelled support of the network. Eg. there was no common communication platform, and no policies or guidelines which would have evoked similar values and behaviour, and therefore would have made supportability easier.

To increase the efficiency of the network, maturity and supportability levels should be improved. This allows using the available resources in a more focused way.

Roles, deliverables and gaps of available resources of the regional network had become transparent throughout the project. This allowed for recommendations below which would help to speed up the development of the network (see Figure 4).

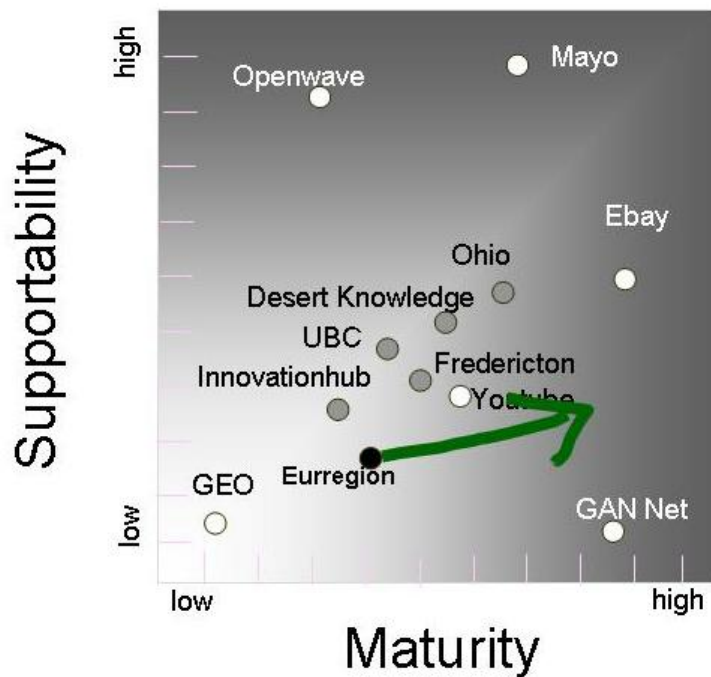


Figure 4: Intended direction of Eurregion

Next steps

The next steps would be a detailed analysis of gaps and shortcomings to move Eurregion to a more manageable position.

a) Detailed Network Position Analysis:

There are various ways to analyze the network with the help of the grid:

1. *Comparison:*

Compare the network to the other networks in Table 5 to find other practices and options.

2. *Categories:*

Go through the statements in Table 3 and 4 and find areas of improvement.

3. *Indicator Analysis:*

Run the actual network data through an application which analyzes the network based on specific value network and social network indicators. The results are practical recommendations on training, teambuilding and other change measures applicable for specific areas of the network.

b) Recommendations

The actual list of recommendations for the project was as follows:

1. Creating a value network strategy blueprint. This is essentially a formalization and simplification of the bridge building components of the value network archetypes (Allee 2009). The resulting value network strategy blueprint is a visualization of the regional innovation system as a value network and validated by the participants.
2. Converting the strategy blueprint into a first version of the business blueprint which is essentially a swim-lane model of the strategy blueprint based on value network Roles and transactions.
3. Migrating the first version of the business blueprint into a process version within the swim-lane model
4. Designing a “best of breed” process model for managing the key workflows within the Eurregion Innovation Forum and Eurregion regional innovation system
5. Configuring the workflow of the intended collaboration platform
6. Integrating the collaboration platform with sub-systems of relevance
7. Integrating the collaboration platform with the Valuenetworks.com business intelligence solution to enable governance capability
8. Training all participants in the value network and inducting them onto the platforms

We see that all recommendations are improving supportability or maturity.

c) Improvement measures implementation

Improvement measures focus on team work, setting the right values and creating a collaborative culture. Transparency is important to create trust and understanding, as much as inclusion and an equal spread of work is important for motivation. The framework helps to channel efforts and focus on the right areas of necessary improvements. Their implementation can be a long-term process. The Eurregion project is still in the early stages and full implementation will not be complete until 2010 or early 2011.

d) Measurement of success

After the necessary changes in the network, the Value Network Maturity and Supportability Questionnaire can be again completed. The network would score higher for maturity, possibly as well for supportability – depending on the scenario (see Figure 5). Due to the improved transparency, the capabilities will have improved and output will be a lot stronger and faster. It is possible to support the network towards its utmost capabilities.

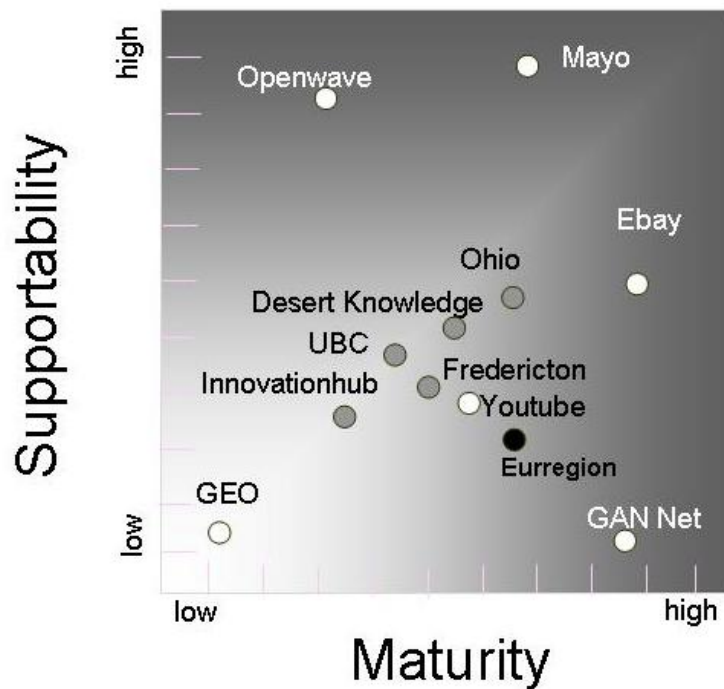


Figure 5: Targeted new position of the innovation system after implementation of support strategy.

Limitations of the methodology

In network analysis as such, the boundary specification can be difficult to justify objectively (Marsden, 2005). Value Network Analysis typically uses a range of methodologies - of which this Maturity and Supportability Model is one - to level out any biases, but even that might not fully solve the difficulties. Network understanding also might be flawed due to incomplete roles and deliverables covered in the analysis. Furthermore, while the Value Network Maturity and Supportability framework is based on insights of value network experts on a number of case studies, it needs more quantifiable evidence and validation by additional practitioners with similar case studies. The statements still need to be refined and standards established. Also the scoring system needs to be validated. Although the statements are a good framework for comparable scores, the answers are still influenced by the subjective observation of the network expert, and therefore the score might be

biased. Additionally, it is not always possible to obtain the relevant data for comparative networks. The study needs more benchmark data.

It is important to remember though that although no research can truly consider all participants and influences in a network, the living systems theory base of value networks (Allee, 2003) allows for discovery of repeating patterns in the network in even small datasets. This unique characteristic of the approach ensures that even with “dirty” and “fuzzy” datasets, network patterns of collaboration can be reliably identified and scaled. Also, in projects as described in this paper, more than one methodology is used to analyse the network which allows for different perspectives and balances out minor biases.

Conclusion

With the help of appropriate frameworks such as the Maturity and Supportability Grid, value network behaviour might be influenced considerably by targeted and appropriate support strategies. Based on the detailed network position analysis, recommendations for improvement measures can be defined clearly. The advantage of the grid is that a perfect representation is not needed for analysis. It is only important to understand the features of the network sufficiently to be able to answer the 22 questions of the respective questionnaire.

This is pragmatically useful for those trying to better support innovation networks as shown in the example of the regional innovation systems of Eurregion. It allows a more efficient channelling of resources. This model adds to the analysis of networks in a way that creates greater transparency and therefore increases supportability or even manageability of a network.

References

Allee, V. (2002) "A Value Network Approach", paper presented at the *Transparent Enterprise Conference*, Madrid.

Allee, V. (2002) "A Value Network Approach for Modeling and Measuring Intangibles", <http://www.openvaluenetworks.com/howToGuides/AValueNetworkApproach.pdf>.

Allee, V. (2003) "*The Future of Knowledge: Increasing Prosperity through Value Networks*", Butterworth-Heinemann, Burlington, MA.

Allee, V., (2007) Innocenti, A., Koumpis, A., Mavridis, A., Molinari, F., Pasher, E., Shachar, S., Schwabe, O., Tektonidis, D., Tresman, M., and Vontas, A. (2007) "Effectiveness of ICT RTD Impacts on the EU Innovation System: Final Report. Evaluation Study for the European Commission, DG Information Society and Media Directorate C", *Lisbon Strategy and Policies for the Information Society, Unit C3 – Evaluation and Monitoring*, December 11, 2007.

Allee, V., (2007) Innocenti, A., Koumpis, A., Mavridis, A., Molinari, F., Pasher, E., Shachar, S., Schwabe, O., Tektonidis, D., Tresman, M., and Vontas, A. (2007) "Annex to the Final Report. Evaluation Study for the European Commission, DG Information Society and Media Directorate C," *Lisbon Strategy and Policies for the Information Society, Unit C3 – Evaluation and Monitoring*, December 11, 2007.

Allee, V. (2008) "Value Network Analysis and Value Conversion of Tangible and Intangible Assets", *Journal of Intellectual Capital*, January 2008.

Allee, V. (2009) "Measuring the Impact of Research Networks in the EU: Value Networks and Intellectual Capital Formation", *European Conference on Intellectual Capital*, Haarlem, The Netherlands, April 29, 2009.

CESPRI (2005) "Evaluation of progress towards a European Research Area for Information Society Technologies" Technical Report for the *European Commission Information Society Directorate-General*, March 15, 2005, available at http://ec.europa.eu/dgs/information_society/evaluation/data/pdf/studies/2005_cespriinception_rep.pdf

ERAnets (2004) "Evaluation of Networks of Collaboration between Participants in IST Research and their Evolution to Collaborations in the European Research Area (ERA)" Technical Report for the *European Commission Information Society Directorate-General*, March 26, 2004, available at http://ec.europa.eu/dgs/information_society/evaluation/calls/era/docs/eranet_inception_rep.pdf.

Grant, R.M. (2002) *Contemporary Strategic Analysis*, Oxford, Blackwell.

Homans, George C. (1958). "Social Behavior as Exchange", *American Journal of Sociology*, 63, 597-606.

Marsden, P.V. (2005) "Recent Developments in Network Measurement", pp. 8-30. In Peter J. Carrington, John Scott, Stanley Wasserman (eds.), *Models and Methods in Social Network Analysis*, New York, Cambridge University Press.

Mintzberg, H., (1998) "The Structuring of Organizations", pp.238-265. In Susan Segal-Horn (ed.), *The Strategy Reader*, UK, Blackwell Publishing.

Knowledge Innovation Zone® Map (2009) at <http://inthezone.com/map.htm> , April 2009

Venezia, C., Allee, V. (2008) "Designing Productive Workspaces for Mobile Workers: Role Insights from Network Analysis", *Information-Knowledge-Systems Management: Special Issue: Enterprise Mobility: Applications, Technologies and Strategies*, Vol 7, No 1-2, pp 61-75.

VINNOVA 2009, (To be published Winter 2009), "Region Skåne Business Development Study", ValueNetworks.com, 2009.