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Title: BUSINESS ECOSYSTEM UNDER CONSTRUCTION

Year: 2012

Version:

Please cite the original version:

Heikkilä, M., & Kuivaniemi, L. (2012). BUSINESS ECOSYSTEM UNDER CONSTRUCTION. In M. Hakanen, M. Seppä, & K. Mäkinen (Eds.), Proceedings of EBRF 2011. University of Jyväskylä, Tampere University of Technology, University of Tampere, Aalto University, Lappeenranta University of Technology, University of Oulu, Abo Akademi University. Proceedings of EBRF.

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Business Ecosystem under Construction

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Abstract

In recent years, we have seen the rise in interest on new service concepts that would take the advantage of capabilities of ecosystems instead that of single companies. In this paper we describe the initial steps on a new business initiative and how the ecosystem starts developing around the core. We use action research approach in one case of building joint service, sports receipt, for health exercise and wellbeing markets. The research paper concludes with an ecosystem model consisting of six sub-ecosystems having different change drivers and clockspeeds.

Keywords:

Business ecosystems, business networks, business model, health exercise and wellbeing (HEW) markets

Two challenges of the western world: lack of growth businesses and poor health

Western countries swim deep in public health problems. News in September 2011 reported that every second Finn sits more than 6 hours per day. The physical activity of around half of the population in Finland is too low and is causing severe health problems (Vuori, 2003). Low activity levels cause increased costs - alone in Finland 400 million euros - in form of additional sick days and early retirement (Fogelholm et al., 2007). It can be stated that one of the biggest risks in well being of western people is the uncontrolled growth of health problems, and in the near future the same challenges are more often faced also in the developing countries.

At the same time world is experiencing a global economic crisis to which governments, politicians as well as researchers attempt to find solutions. As the competition has gotten global and the resources seem scarce, it is obvious that the economic crisis challenges our understanding on what comes to the venturing and business creation as well. Due to the crisis we have an ever-deepening need of new market solutions and growth ventures that are able to create value and at the same time help to solve the big problems of our time. Finding solutions to such problems may require linking the imagination and innovativeness of several actors from various backgrounds and industries into a common business ecosystem.

Our research goal is to describe the various stakeholders needed in creation of a new innovative business. We aim to recognise the different domains of players involved in ecosystem under

construction in the context of a new service for the health exercise and wellbeing market. What kind of players are/should be involved, why and how their inclusion in the initialising ecosystem impacts the operations of the whole? By seeing parties as co-creators of the business model we formulate our qualitative research questions:

1. What are the key sectors of an ecosystem under construction?
2. How do these sectors impact the growth of the ecosystem?

In our previous studies (Heikkilä, 2010) we observed the expansion of the business ecosystem to follow the process of collaborative business modelling depicted in Fig 1. (Heikkilä, 2010).

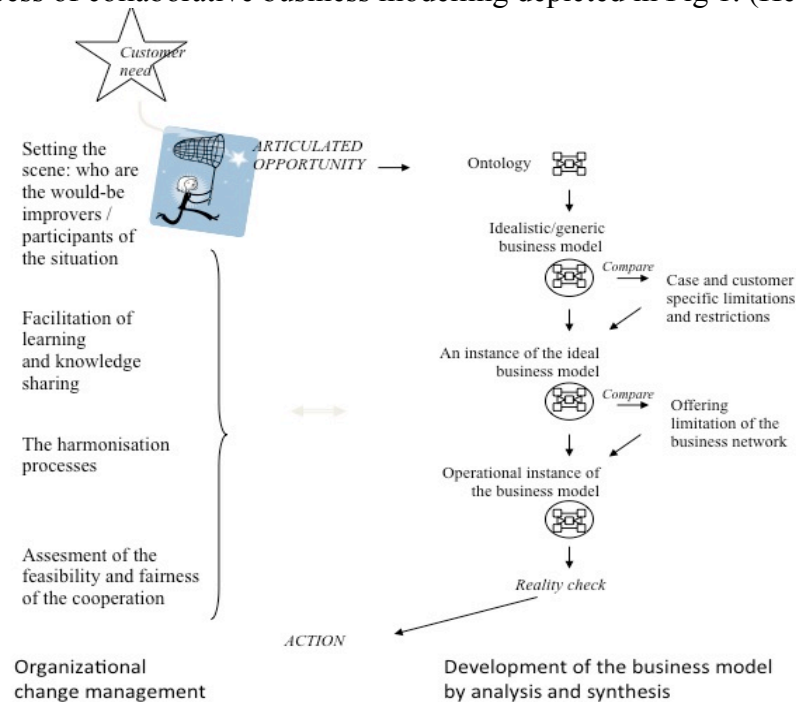


Figure 1. Collaborative process of networked business modelling (Heikkilä, 2010)

The collaborative process consists of two parallel processes: 1) the systematic analysis, improvement and adjustment of business model and its components (on the right hand side of the figure), and 2) the organisational change management process (left hand side). That is, at the same time as the joint business model is being developed, a serious amount of effort has to be put on change management, to select the collaborators and escort the partners to harmonise the network strategy, and to synchronise its operations as well as evaluate the feasibility of the operational business model. In this paper, we are concentrating on the very first tasks of the change management, setting the scene and selection of the players.

The remainder of the paper is organized as follows. In the next chapter, Relevant Research, we review the existing literature on ecosystems. After describing the action research method applied in our research, we present the case study. Finally, in Analysis, we draw some conclusions from the case. We end this paper with a summary, contributions and limitations of this study, and concluding remarks and suggestions for future work.

Relevant Research on Ecosystems

Recently it has become quite common in research literature to conceptualize business networks by comparing them to biological ecosystems (Iansiti & Levien, 2004a p. 35). Similar to biological ecosystems a business ecosystem is formed by large, loosely coupled networks of entities. These entities such as firms, organisations, entrepreneurs etc. interact with each other and the health and performance of each actor is dependent on the health and performance of the whole. That is, the actors are simultaneously influenced by their own capabilities and their interaction ties with the other players in the ecosystem (Håkansson & Ford, 2002). The trend of many firms looking for new opportunities beyond their existing industry explicates (Solaimani et al., 2010) that contemporary ecosystems are not restricted to any single industry but cross a variety of industries (Moore, 1993).

Perhaps the major difference between the concepts of business ecosystem and business network is in the variety of actors. Typically business networks are considered as groups of firms co-operating in designing, producing and delivering products to customers. Business ecosystem, in turn, includes partners and subcontractors but also complementors, competitors, customers and potential collaborator companies as well as public bodies, local incubators, investors and even research institutes and universities (Moore, 1998). An ecosystem is expected to have a heterogeneous structure, with actors adopting dramatically different roles that influence different aspect of the stability and productivity of the whole. This especially is the case when complex knowledge is needed, and the sources of expertise are widely dispersed (Powell et al., 1996).

As Iansiti and Levien (2004b) point out, it is merely an academic exercise to try to draw the boundaries of an ecosystem. Instead it is more helpful to recognize the types of organisations or players that are or would be involved. Each ecosystem typically encompasses several domains that it shares with other ecosystems (Iansiti & Levien, 2004b). At the birth phase innovative ideas may come from large corporations or organisations, but often they are suggested and pushed forward by entrepreneurs, or in spin-off companies. Many of the seeds of new businesses die young, but perhaps are revitalised some later date when getting more fertile grounds.

Pragmatic abductive action research

Fighting Low Activity by Business Creation (abbreviation: LA) is a next generation Tekes funded project. The project focuses on preventing health issues (e.g. obesity, type 2 diabetes) typical of Western industrialized countries by developing significant global export goods based on Finnish wellbeing know-how. These product and service innovations, spread with help of new service business and e-Business models, are expected to have a significant impact on public health and national economy. One example of the business concepts being examined in this project is exercise prescription, an innovation in the field of preventive health care.

Our research method is Action Research, AR, where researchers actively participate in the business decisions by producing knowledge for the players in the ecosystem. Whereas other research methods seek to study organisational phenomena but not to change them, the action

researcher is simultaneously studying the phenomenon and creating organisational change (Heikkilä, 2010; Aspegren et al. 2011).

Action research, building on pragmatist philosophy (Baskerville & Myers, 2004), is an established research method in social sciences. In pragmatism the investigator and the research object are assumed to be interactively linked so that the findings are literally created as the investigation proceeds (Guba & Lincoln, 1994). Here, we researchers are actively taking part in the Ecosystem under Construction (EuC) - the object of our study. We aim to make purposeful use of propositions, models or theories - and question whether they are useful in practice “in the sense of helping people to better cope with the world or to create better organisations” (Wicks & Freeman, 1998, p. 129).

Our theoretical reasoning is moving back and forth between empirical discovery and theory in abductive manner (Paavola, 2004, 2006). Even though having been heavily criticised, abduction is seen as a method to test new ideas or for making sense of new situations (Richardson & Kramer, 2006), which is the case in creation of an ecosystem. The original theoretical framework is successively modified, partly as a result of unanticipated empirical findings, but also of theoretical insights gained during the process (Dubois & Gadde, 2002). By combining partners and researchers, previous knowledge and understanding from several complementing areas, such as business, law, information systems, sports and medicine, we aim to provide new theoretical explanations and practical methods to find potential cures for the western world's problem of meagre physical activity.

Case: Exercise prescription

Previous studies have found written physical activity (PA) prescriptions useful in motivating patients to increase physical activity (Swinburn et al., 1998). Among the most inactive patients the prescriptions supplemented with additional written materials mailed later on to the patients, led to modest short term improvements in self-reported physical activity levels (Smith et al, 2000). A study carried out in Finland pointed out that three most important improvements required in order to increase the usage rate of PA prescriptions are: 1) an electronic prescription system, 2) increased training and 3) better fit of the PA prescription process and tools with the daily practise of the doctors (Ståhl, 2005). So far, the societal embedding of this well being improving innovation has not been a success.

The current case of creating business around physical activity prescription takes advantage of the lessons learned from the pioneering projects above. The business model for sports receipt service was created by an entrepreneur. It requires building an ecosystem around the business. He claims that the previous trials of introducing health exercise prescriptions failed in addition to the above mentioned three reasons also because of 4) missing financial incentives of the supplier side. Where as the previous trials were initiated and run by governmental offices or institutions in an aim to improve wellbeing of the citizens, this time the innovation provides also potential profits for several commercial players in the health and wellbeing industry. It holds a great potential in prevention and care of cardiovascular and musculoskeletal disorders as it offers an easy to use-solution to intervene the patient's health problem caused by lack of exercise.

The entrepreneur agreed with the LA-research project to have the exercise prescription as a case of building ecosystems around new business concepts. With the help of the research group a set of potential core organisations were identified. The figure 2 shows the layers of ecosystem (Moore, 1993; 1998) and the players of the Health Exercise Prescription at the time of writing this paper. There are total 6 organisations involved and negotiations with two more are on going. The other organisations shown in the figure were recognised by the LA researchers based on previous literature.

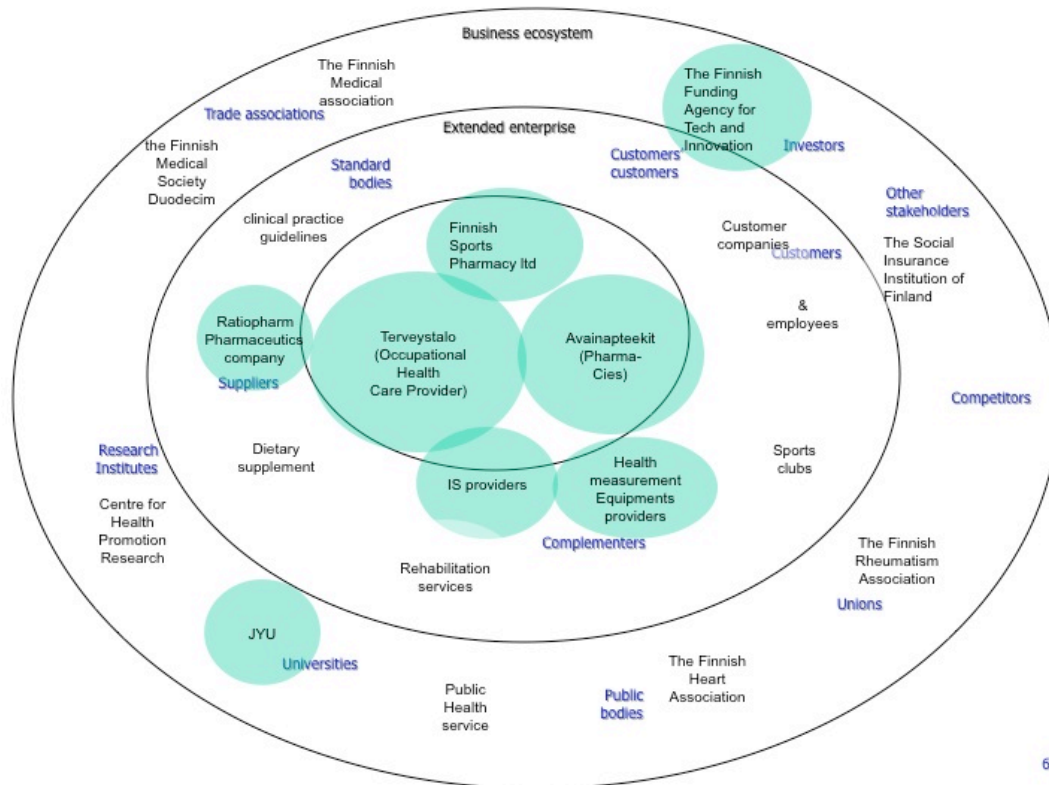


Figure 2. Current state of the ecosystem

Due to the strong business initiative and the drive of the entrepreneur, the exercise prescription captured the attention of the biggest market players in Finland in the HEW industries. Initially, there were several prospects for the core partners, and those pharmacies, pharmaceuticals, and medical centres that had the most interest in the business idea were met in person. After negotiations one of Finland's leading healthcare service companies, Finnish Terveystalo Pls. was selected to core contributors. Its core assets are doctors and a large customer base: The company has over 2,000 practitioners providing occupational healthcare in more than 150 locations. And it has the customer contacts to companies that purchase occupational health services for their employees. This provides a good fit with the planned business model in which occupational health care patients are considered to be the most important segment of the new service.

In order to improve the customer reach and easy access to the service the entrepreneur wants to involve also pharmacies. In Finland there is at least one pharmacy in each community, in most

communities there are multiple pharmacies. Most of the pharmacies are privately owned. The activities of pharmacies are controlled with licences provided by The Finnish Medicines Agency, a central administrative agency operating under the Ministry of Social Affairs and Health. Currently majority of turnover comes from prescription drugs, but pharmacies are seeking possibilities to expand to service business. They seem to have good possibilities in succeeding in their new strategy since the last survey shows that customers are highly satisfied with the service level of the pharmacies (Apteekkariliitto, 2010). After negotiations a chain of 64 privately owned pharmacies, Avainapteekit Ltd. joined the team. Their task in physical activity prescription business would be counselling and recurrent measuring of the improvement in physical health of the patients.

In addition to the occupational health care company and the pharmacy chain, the company of the entrepreneur, Finnish Sport Pharmacy, naturally holds one of the core positions in the business model. Whereas in previous experiments the researchers and public instances were leading the formation of the ecosystem, in this case the leader is the entrepreneur. His company is focusing on exactly to those issues pointed out as most critical to success: Training of staff, which was the main activity of his company in recent year. Also a large pharmaceutical company in the Finnish prescription and OTC market, ratiopharm Oy, is committed to help in training of practitioners. Even more importantly, he plays the main role in creation of a fluent process that fits with the daily practise of practitioners (and customers) and provides benefits for all the parties involved, and designing and running an electronic prescription system that makes this process possible.

The value add in the new business model does not come from automation of processes but from totally new process consisting of tasks carried out in multiple organisations. This requires also information systems that facilitate and support this process innovation and transformation (Mooney et al, 1996). Currently there are no information systems or measurement equipment in place that would transfer necessary information between the partners. That is why the now on-going second phase in creation of the ecosystem involves business negotiations with information systems providers and health monitoring equipment suppliers. IT is actually the major cost issue the entrepreneur has to solve before a proof of concept can be done to demonstrate whether the business model is fiscally sound. For proof of concept a minimalist prototype or pilot is needed to demonstrate how the business idea will play out in the real world and why, really, all the core companies are needed to provide the services.

Analysis of the evolution of the ecosystem

The idea of boosting physical activity of patients with prescriptions has been suggested by several researchers already in late 90's. In Phase 0, the first pilots were carried out by public instances. The adoption of the sports prescriptions however halted and died down after the public financing ceased. Phase 1 presents the new start, where the development is driven by an entrepreneur, who has invested a lot of time in creating and promoting a business model requiring close collaboration of several companies. The evolution is illustrated in the following figure 3 showing the groups involved in the previous trial in Finland (marked with horizontal lines) and the construction of the current trial (marked with grid). The figure illustrates how previously the ecosystem consisted of mainly the most outer layer; universities and research

institutes working with several unions and associations. In the current case the ecosystem building started from the core and additional partners or collaborators are carefully selected from the next layers.

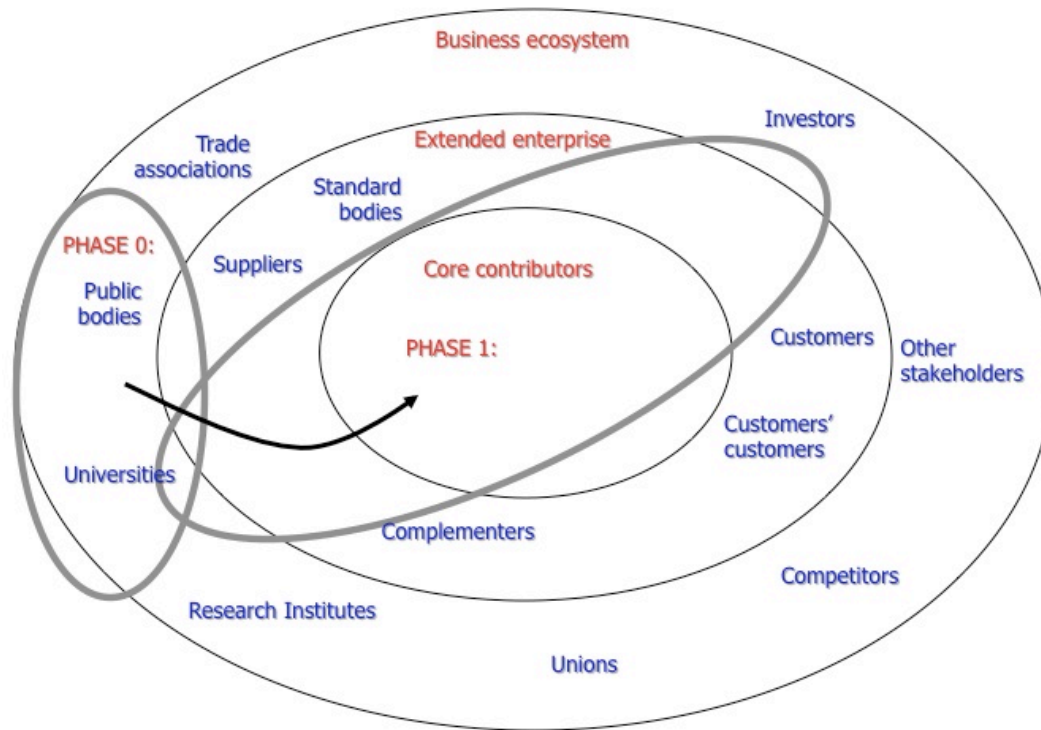


Figure 3. The evolution of the ecosystem of health exercise prescription.

Currently, the challenge in boosting the growth of the ecosystem is how to recognise who are the next actors or areas that should be contacted and involved in collaboration. For doing this, one might find it useful to divide the ecosystem map into differing sub-sectors as we have done in Figure 4. The sectors are recognised from business modelling literature. Business model articles typically list external forces that affect the success of the business. These forces include competition / co-opetition, policies and legal environment, social or technological change and changes in customer demand (Nalebuff & Brandenburger, 1996; eFactors, 2002; Hoffner et al, 2004; Osterwalder, 2004). Furthermore, it is claimed that, in addition to the business, the ecosystem should attract research. The salience of the symbiotic relationship of business and research may be seen in Silicon Valley (Sydänmaalakka, 2011).

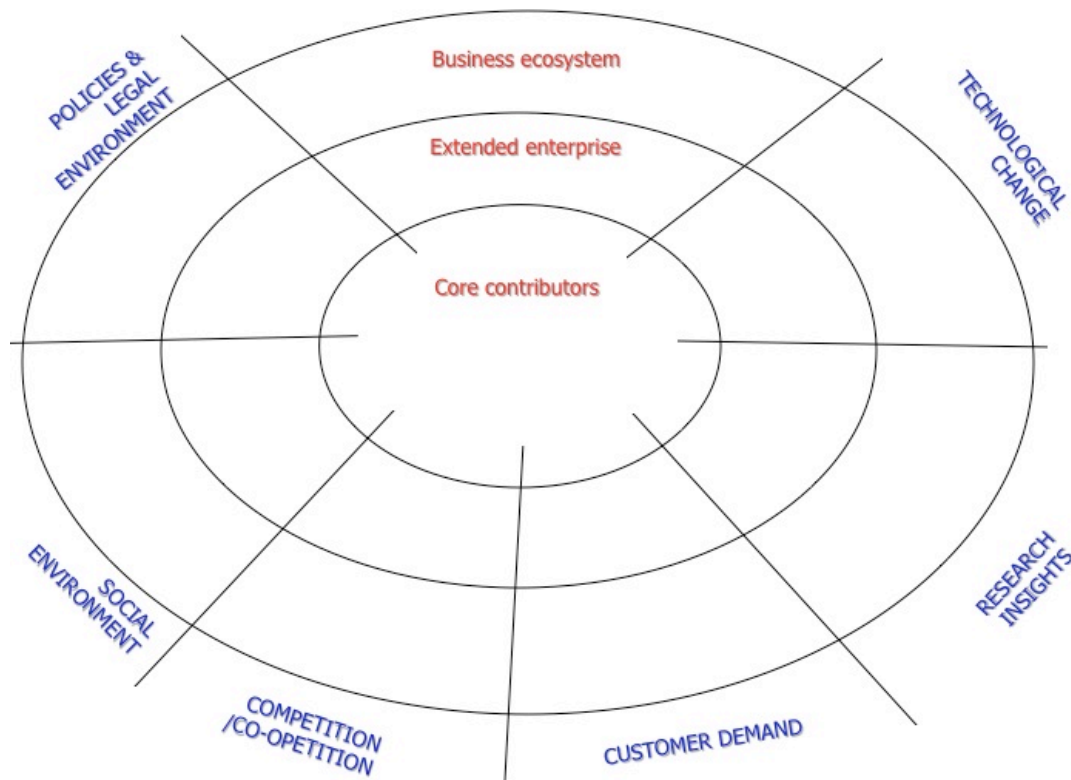


Figure 4. Sub-ecosystems & driving forces of change

We suggest that when considering the expansion of the ecosystem one should carefully consider all the six sub-ecosystems recognised in the Figure 4 and plan in what order the sectors should be covered. Our research so far has already revealed that there are significant differences in the clockspeed of the ecosystems and this should be taken into account in planning. The clockspeed characterizes the general velocity of change in the sector and the pace of the firms' internal operations (Mendelson & Pillai, 1999). We have tentatively placed the sectors in the clockspeed order, fastest being the technology sector and slowest the legal environment and the policy setting. This has practical implications: The sectors one most probable finds actors willing to co-operate in new innovative initiatives are the technology and research sectors. On the other hand, as no quick changes are expected to accrue in legal and social environment, a business initiative can build on the current laws and social custom. However one should always be aware of the status of preparations of new laws and policies, and act accordingly.

Discussion

This paper presents early results from an on-going action research study on business ecosystem. The business case examined is exercise prescription, an innovation in the field of preventive health care. An entrepreneur who has created the business model is pushing the business

initiative forward. His goal is create a functioning business network consisting of companies that jointly provide health prescription services - profitably. This business network supported with other actors providing and co-creating supplementing services, products and research in co-operation with public institutions forms the ecosystem.

We suggest that the expansion of an ecosystem can be analysed and even perhaps planned by considering six differing sub-ecosystems: Technology, research, customer demands, competitors, social environment, and legal & policy environment.

It can be stated that so far the entrepreneur and the researchers have served as the base for HEW network. In the future we work to widen the network together with the growth entrepreneurs, corporations, as well as by teaming with researchers from different fields. Thus in the future the business and research network will serve as a platform to which the ecosystem is built one piece at the time. The usage of this approach can be seen in it's grandeur form in Silicon Valley, but whereas there it has developed in time and without guidance, our aim is to seek proactively the best fitting components for the ecosystem to flourish.

The ecosystem is built on trust and benefit for all the participants. In the business the gains have to be measurable and quite fast. This sets pressure for the action research, but on the other hand rewards the research team as we receive immediate feedback on our input. Our research hypothesis either work on real market situation or they do not. If they do our research job has wider meaning and impact in/for the society on both health and growth.

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