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OASIS WAY AND THE POST-NORMAL ERA — HOW UNDERSTANDING SERENDIPITY WILL LEAD YOU TO SUCCESS

Kakko I.

This book is based on the experiences taken from "netWork Oasis" and "OpenINNO" (ENPI – 631) projects. It will describe the revolutionary change in our society and business fields that produces a transforming effect also on our innovation environments. The increasing importance of communities and sustainable ecosystems is highlighted. The emergent types of entrepreneurship — both effectual and social entrepreneurship — are explained, and some greatly illustrative examples outside Oasis and OpenINNO projects are also provided.

The key conclusion of the book is that innovation activities can be improved by understanding serendipity and applying serendipity management principles. The book gives practical, hands-on advice how to harness serendipity on individual, community-wide, and organizational levels. It describes the possibilities to enhance serendipity in business environments by workspace design, both physical and virtual, and explains how to increase coincidensity in the team-building process.

Keywords: innovation environments, incubation, community building, ecosystem development, open innovation, collaboration platforms, serendipity, serendipity management

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INTRODUCTION

The challenges of our contemporary business environment are constantly changing. The Industrial Era has given room to Knowledge Society, which, in its turn, is transforming into an emergent age that we like to call the "Post-Normal Era". This book will illustrate the new challenges that we all are going to face — as individuals, communities, and businesses. Based on the fundamental conceptual work completed in the "netWork Oasis" project and the further elaboration of the practices in operations during the "OpenINNO" project, the book will show proven methodologies to tackle the challenges. It will describe the principles of "Oasis Way of Working", the practices of community building as part of ecosystem creation and the perspectives in understanding serendipity. It summarizes the results of more than ten years of work in the area of innovation environment development.

The book is useful for people responsible for innovation environment development — such as incubation managers, community managers, and science and technopark management, as well as entrepreneurs and ecosystem developers.

The book is divided into five chapters.

Chapter 1 gives an overview of the fundamental changes, which we are facing as individuals, as well as communities and businesses. The purpose is to show the characteristics of the Post-Normal Era and the ongoing Big Shift, which is happening at an ever-increasing speed. The first chapter indicates how these changes will put pressure to the traditional science park and incubation environments.

In *Chapter 2* we take a look at the community-building principles and illustrate the importance of well-working ecosystems. This chapter emphasizes also the main focus areas of the OpenINNO project, the development and piloting of a collaboration platform based on open innovation and serendipity management principles.

Chapters 3 and *4* are based on the experiences and lessons learnt from the net-Work Oasis project. Some new platforms are presented and their use in the context of OpenINNO project explained.

Chapter 5 concentrates on explaining serendipity, as well as on introducing new ways to harness it. Serendipity management methodology is presented with some clarifying examples. This final chapter also ties together the insights of the previous chapters and works as a conclusive part of the book.

The main conclusions of the book are summarized at the end of each chapter.

Post-Normal Era and Big Shift

The future ain't what it used to be.

Yogi Berra

1.1. Big Shift towards the Post-Normal Era

Our society and therefore also business environment is transforming rapidly. The existing structures — institutions, corporations, and communities — are not very good in adapting to the rapid changes, unexpected events, and overall unpredictability of the future. When development is not linear, we need different approaches and new forms of organizing our activities. **Stowe Boyd**[1], an American webanthropologist, futurist, and author, has described this transformation by calling it the *"Post-Normal Era"*. Also, the leading thinkers in Deloitte Edge, **John Hagel** and **John Seely Brown** are pointing out that we are experiencing a *Big Shift*, where the former "push" methodologies will be substituted by the new "pull" thinking[2]. And this will have huge impacts in the ways we communicate and conduct successful business.

The well-accepted truth in Industrial Era ("Normal" Era) was that the market potential determines the scale of the operations. The competitive edge was the ability to streamline processes and take advantage of low transaction costs and the

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[1]   http://stoweboyd.com/
[2]   http://www.deloitte.com/view/en_US/us/About/Catalyst-for-Innovation/Center-for-the-Edge/The_Power_of_Pull/index.htm

economies of scale. The new, emergent Post-Normal Era is calling for more net-worked operation models and the understanding of so-called "Extended Enterprise" thinking. The dynamics and the quality of interactions in business ecosystem can be improved by management practices and, partly, by developing community govern-ance policies. Here we will list some of the elementary factors and scenarios how new thinking and change in structures will change the fundamentals of the business operations:

- The constantly changing communication patterns because of the rising use of social media and the development of the enterprise collaboration platforms.

- The entry of generation Y (born after 1979) into the labor market and business scene.

- "Start-up hype" is peaking, currently the rise of the effectual entrepreneurship, freelancer thinking, and networked business models are gaining momentum.

- The increasing pressure to introduce sustainable structures and practices, the emergence of ecosystem thinking.

- Globalization.

- The importance of social capital.

- And rapidly emerging serendipity management practices.

Relying only on the traditional business principles can't fulfill the requirements these changes create; there is certainly an urgent need for a new type of think-ing. The main difference between these approaches is that scale-dominant patterns and related management practices in companies focus on existing structures and established institutions, which are dependent on hierarchies and "push" philoso-phy. The new "Post-Normal Era" model supports ecosystem dynamics and is also human-centric, and provides geographically dispersed physical and virtual plat-forms, which work according to the "pull" philosophy. It is also characterized by the revolutionary changes in infrastructure and power concentration moving away from institutions; Jeremy **Rifkin**'s vision of the Third Industrial Revolution is gain-ing momentum in everyday life. We have summarized some of the most important transformative factors in Figure 1.

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3   See Gary Hamel's thoughts here: http://whispersandshouts.typepad.com/r1112b-pdf-eng.pdf, also Zappos new initiative to implement 'holacracy' http://www.washingtonpost.com/blogs/on-leadership/wp/2014/01/03/zappos-gets-rid-of-all-managers/

Normal Era	Post-Normal Era
Push → Top Down	Pull → Attraction
Hierarchies, command, and control	Leaderless organizations,[3] connectivity, and collaboration
Profit, shareholder value	Passion, stakeholder value
Linear planning	Non-linear planning
Optimizing, maximizing	Ecosystem building
Salary, career, jumping from company to company	Freelancer income, key customers
Start-ups	Effectual entrepreneurship
Venture capital	Social capital
Networking	Community building
Global mass production	Local 3D-printing, Third Industrial Revolution[4]
Corporations, traditional office	Freelancers, CNOs, co-working, maker/hacker spaces
Innovation management	Serendipity management
Stock of information	Flow of information
Local university	MOOCs (like Coursera)
Strategic planning	Agility, networked model
Predictability	Gaining from unexpectedness
Investment economy	Sharing economy
CVs	Klout – score[5]
Business Plan	Business Model Canvas
Ownership	Access
Home, family	Nomadic lifestyle
Patriotism	Global communities
Work-life balance (24/7)	Work-life balance (lifetime)
Fragile	Antifragile[6]

Figure 1: Examples of the fundamental changes in the business environment

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[4] http://en.wikipedia.org/wiki/The_Third_Industrial_Revolution:_How_Lateral_Power_is_Transforming_Energy,_the_Economy,_and_the_World#China

[5] A software that follows your activities in social media and measures your influence, see more: http://klout.com/home

[6] Check more: Nassim Nicholas Taleb (2012): *"Antifragile — Things That Gain from Disorder"*, Random House, New York

We will discuss some of these later on in more detail (like effectual entrepreneurship, co-working, and serendipity management), but now we will have a closer look at four of the factors with the revolutionary impact:

- Push vs. Pull
- Stock of Information vs. Flow of Information
- Fragile vs. Antifragile
- Third Industrial Revolution

1.1.1. Push vs. Pull

This fundamental shift is in a great way described in *"The Power of Pull — How Small Moves, Smartly Made, Can Set Big Things in Motion"* by **John Hagel**, **John Seely Brown**, and **Lang Davison**[7]. In this book they give many illustrative examples about such phenomenon. To understand Big Shift we want to shortly explain some of the fundamental factors in their thinking. The Power of Pull has three elements:

- Access
  - ♦ Access is becoming essential to survival in an increasingly unpredictable world
  - ♦ Access to people
    - *"The most valuable search is the one that connects us to people; they often are the best sources of information and knowledge, especially new tacit knowledge — know-how relating to new fields of endeavor or new activities on the edge"*
  - ♦ Access to flow of information
    - Pull platforms — like SAP Developer Network (SDN) or various online communities like Living Bridges Planet in Facebook[8]
    - Enables us to FIND, CONNECT, INNOVATE, REFLECT
- Attract
  - ♦ Amplifying
    - Increasing the sheer number of unexpected encounters — or, as Stowe Boyd expresses it, "improving coincidensity", increasing diversity, and social density around you.

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7   John Hagel, John Seely Brown, Lang Davison (2010): How Small Moves, Smartly Made, Can Set Big Things in Motion, Basic Books, New York
8   https://www.facebook.com/groups/livingbridgesplanet/

- ♦ Filters
  - ▪ Spending time only on those interactions that yield value to us and to others
  - ▪ A personal portfolio of belonging to different kind of communities and having a critical mass of social capital
- ♦ Serendipity
  - ▪ *"In a world where attraction and return on attention — defined as the value gained relative to the time and attention invested — are becoming increasingly important, those who master the techniques required to shape serendipity will likely to profit far more than those who simply wait for it to surface."*
- ● Achieve
  - ♦ Designing creation spaces, fundamental elements:
    - ▪ Participants
    - ▪ Interactions
    - ▪ Environments (both physical and virtual)
    - ▪ Governance protocols
    - ▪ Incentive structures

1.1.2. Stock of Information vs. Flow of Information

This is probably the most decisive factor in the near future. If you think the consequences, you'll start to find how essential this change is going to be. During the "normal era", corporations and institutions were able to control the information, it was carefully distributed (or kept undistributed — the case by case choice of the top management) and the processes were designed to guarantee maximum quality and efficiency. The predictability was pretty good, and unexpected events were rare. Yet the world has totally changed in the last ten years. The "Post-Normal Era" will challenge all the basic assumptions of the traditional corporate thinking.

The best way to illustrate the difference is to make a comparison to water circulation in the nature. When tapping into the flow of information it's like going to the mountains and placing yourself at the springs of the water flow (or in this case information flow). The stock of water (information) again is like trying to find out

those water cells (pieces of information) when they have already flown into the sea. There you need certainly a very effective search engine, and still it's not sure that you will find what you are looking for. And just think about the time delays. If you are waiting for the water to flow to the sea, you will be able to act much later than people who are gaining benefit from the "mountain springs of information".

The essential success factor here is your personal portfolio of communities you belong to and the connectivity to the valid networks. In fact, people with a lot of social capital (belonging to a diversity of communities and having trusted access to valid networks) are automatically positioned to the "mountain springs of information", they are able to tap into the flow of information in very early stages. And yet the information is well-filtered and does not cause any flooding, because only valid and sometimes serendipitous findings will be shared. You believe the judgments of your trusted community members and the nodes of various networks.

To build such a great "human search engine" is not an easy task. It takes time, and you have to be proactive. The fundamental prerequisite in building this kind of social capital is reciprocity: You have to give in order to receive! My personal experience is that it will take time from 12 to 24 months, but it's surely worth of the effort. Some of the principal online communities where I have gained positive experience in terms of reciprocity, trust, and useful information flows are described in more detail in *Chapter 2*, *Community Building*.

1.1.3. Fragile vs. Antifragile

This is the third fundamental shift in thinking, which is needed in order to survive in the Post-Normal Era. **Nassim Nicholas Taleb**'s message is clear: The antifragile is beyond the resilient or robust. The resilient resists shocks and stays the same; the antifragile gets better and better. The antifragile is immune to prediction errors and protected from adverse events.

This approach has several implications to business environment, and our understanding is that it emphasizes the importance of strong ecosystem thinking. Adaptive and sustainable "nature-like" ecosystems are antifragile — at least, their competitiveness increases during crises especially if compared to other structures. I have illustrated some of the differences in my blog (http://www.respectserendipity. com/), and the table of Figure 3 is taken from there[9].

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9   http://www.respectserendipity.com/?p=804
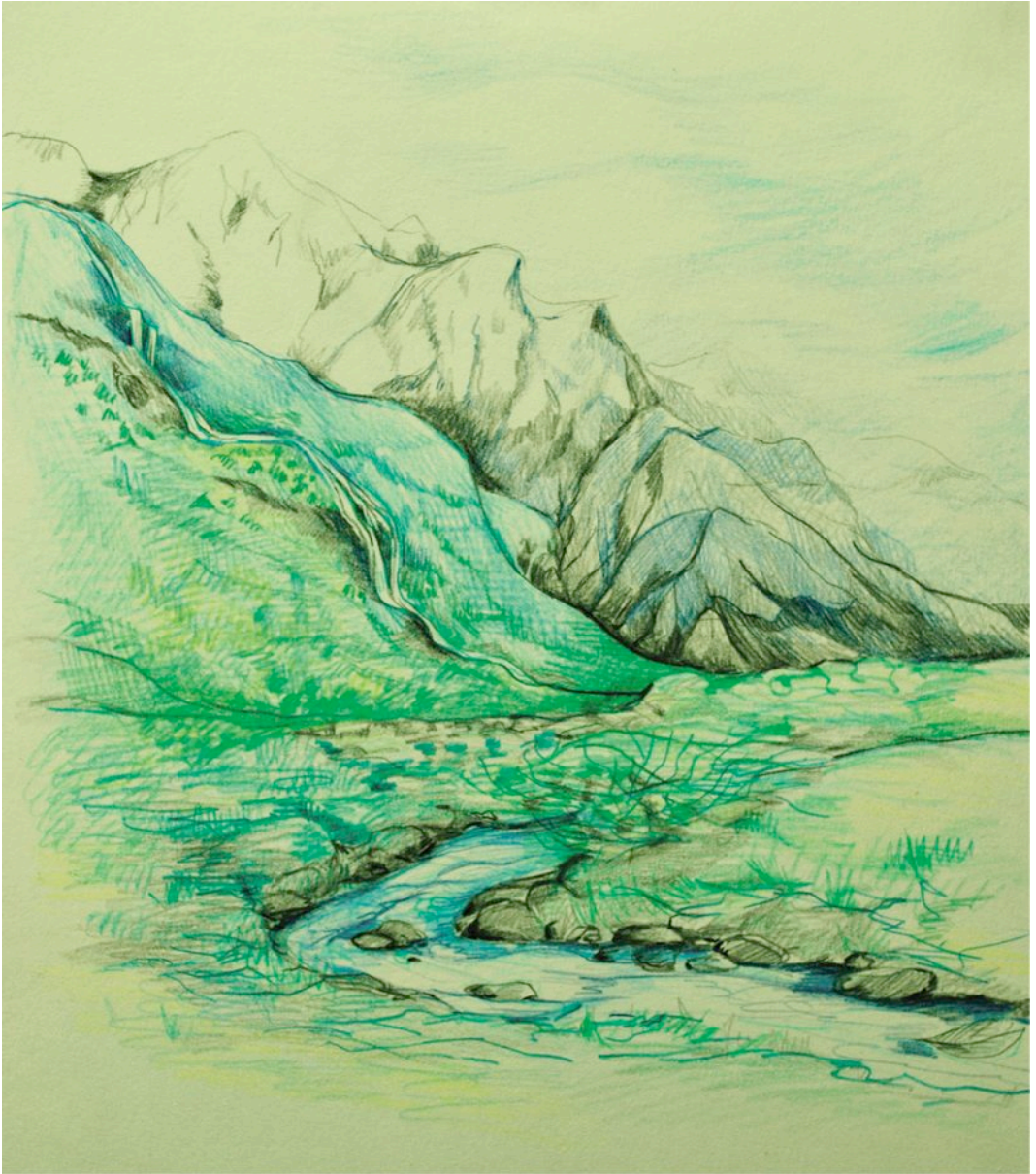
Figure 2: The flow of information, the springs of the mountain river

Focus area	fragile	antifragile
Working	* fixed salary from a big institution * following a career path * commuting with car in trafic jams * work-life (in)balance	* effectual entrepreneurship * diverse clientele * work from home and/or @coworking * work-life integration
Living	* house on suburban area or a flat in downtown of a metropole * huge mortgage	* rented house with big garden on country side * no mortgage
Image	* tourist style behavior * suit and tie * at least two cars	* flâneur style behavior, * casual outfit * bicycle
Priorities	* status, career, own economy, family, security * Push attitude	* social capital, friendship, justice, sustainability * Pull attitude
Inspired by	* order and predictability, * knowledge, built environments	* change and flexibility, * serendipity, Mother Nature
Motto	I hate to make wrong mistakes	**I love to make right mistakes**

Figure 3: Fragile vs. Antifragile lifestyle[9]

1.1.4. The Third Industrial Revolution

The Third Industrial Revolution[10] is going to challenge the power of the huge institutions like energy producers and mass-production giants and make small communities more self-sustainable in terms of energy production and delivery. It will also diminish the effects of globalization, because 3D-printing and new green solutions in logistics will provide the opportunities to local communities, villages, and cities to rely on local infrastructure in these matters.

The Third Industrial Revolution is, according to **Rifkin**, based on five pillars:

1. Shifting to renewable energy;
2. Transforming the building stock of every continent into green micro-power plants to collect renewable energies on-site;

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10   http://www.thethirdindustrialrevolution.com/

3. Deploying hydrogen and other storage technologies in every building and throughout the infrastructure to store intermittent energies;

4. Using Internet technology to transform the power grid of every continent into an energy internet that acts just like the Internet (when millions of buildings are generating a small amount of renewable energy locally, on-site, they can sell surplus green electricity back to the grid and share it with their continental neighbors);

5. Transitioning the transport fleet to electric plug-in and fuel cell vehicles that can buy and sell green electricity on a smart, continental, interactive power grid.

This transformation is revolutionary by its character and will, according to Rifkin, *"create thousands of businesses and millions of jobs, and usher in a fundamental reordering of human relationships, from hierarchical to lateral power, that will impact the way we conduct business, govern society, educate our children, and engage in civic life"*.

1.2. The Business Dilemma

As was already illustrated in the previous section, the ongoing transformation in business environment requires new approaches. Figure 4[11] explains the dilemma, which we have started to call *"the battle of arrows"*. **Gary Klein** illustrated this in an elegant style in his book *"Seeing What Other's Don't — The Remarkable Ways We Gain Insights"*. This is becoming increasingly evident and if the performance improvement of a corporation is based only on minimizing errors and streamlining processes, according to Klein, this will limit the innovation potential of a company. Introducing Six Sigma has in some cases turned out to have severe negative consequences to company's innovation activities. The experiences of 3M, once acknowledged as the most innovative corporation in the world, show clearly that *"the battle of arrows"* is a real challenge in contemporary business environment.

One reason for this dilemma is the ongoing transformation towards Post-Normal Era, examples of some single factors were shown in Figure 4. The overall predictability of business environment is deteriorating, which again increases the willingness

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[11] Gary Klein (2013): "Seeing What Others Don't — The Remarkable Ways We Gain Insights", Public Affairs, New York
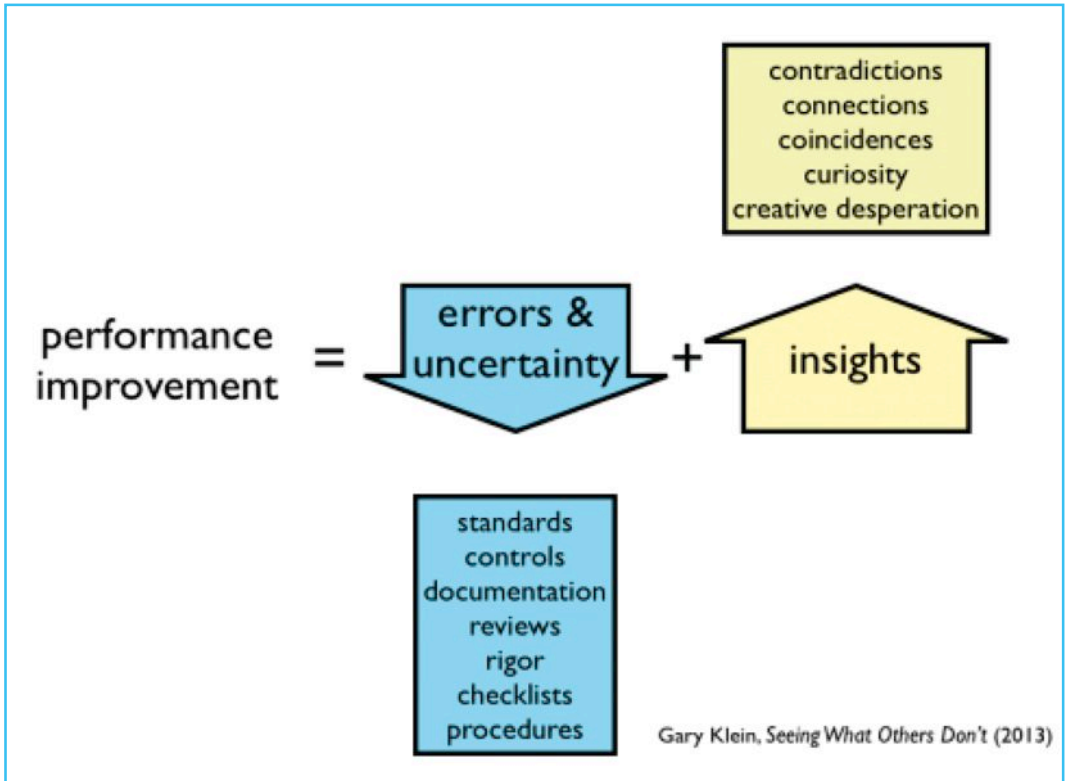
Figure 4: "The battle of arrows", the business dilemma

in companies to introduce Six Sigma type of activities in order to somehow retain control over the processes. On the other hand, the increased dynamics, unexpected encounters, and events plus rapid changes in power structures open up the great opportunities for new entrepreneurs. Insightful visions and agile processes are gaining a competitive edge and the success stories generate more followers, like in Finland, where the success of companies like Rovio and Supercell has created a boom in the gaming industry.

Introducing more controls and checklists, especially inside the R&D department, will evidently lead to more incremental innovations, but at the expense of disruptive ones. This potential development was very clearly illustrated in the Business Week article *"At 3M, a Struggle Between Efficiency and Creativity"*, where the pitfalls of "Six Sigma" approach in the longer run are shown.[12]

This business dilemma is also a question of company size and structure. The established institutions and big corporations are known to be very streamlined in

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[12]   http://www.businessweek.com/stories/2007-06-10/at-3m-a-struggle-between-efficiency-and-creativity

their processes — yet the start-up and effectual entrepreneurs are not restricted to the downward arrow, when launching business operations. The dilemma for them is, when the company grows and there starts to be a vital need to focus also on effectivity, how to keep the innovative spirit and procedures and yet introduce new productivity-increasing initiatives.

Actually, this "battle of arrows" is closely related to what **Ben Horowitz** describes brilliantly in his blog as "Can Do vs. Can't Do" culture.[13] Big corporations have the "inertia" in their system. Any idea to be accepted into implementation has to go through various stages in the organization and in each stage there is a chance that somebody will kill the idea, often just to show off for consolidate power. In many cases, the "naysayers" are focused on what the technology could not do at the moment rather than what it could do and might be able to do in the future. This is the most common mistake that big corporations often make.

1.3. New Approaches: Intrapreneurship and Extended Enterprise Thinking

When it's evident that the business dilemma exists, then the big question to be answered is: How a company can then shift the focus to also support insight through these five C's? This will be discussed in more detail in *Chapter 5*, *Serendipity Management*, but here we want to emphasis the importance of tapping into the flow of information. In a traditional company, there are at least two practical options to connect to the "mountain springs of information":

- Introducing intrapreneurship programs with appropriate management policies and tools
- Launching "extended enterprise" approach and acting as a responsive organization

Intrapreneurs are internal entrepreneurs inside big corporations; they are the drivers of internal innovation activities and practical facilitators of the teams responsible for action. To steer a traditional company in this direction is a challenging exercise. It requires a certain type of management structure and a well-communicated plan of transformation. Just broadcasting that from now on, our company will support intrapreneurship, is not enough. In fact, that kind of action is harmful, because it promises a positive change — at least for the most talented and creative workforce — and if the execution fails, the company will end up loosing its talent at an increasing speed.

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[13]   http://bhorowitz.com/2014/01/02/can-do-vs-cant-do-cultures/
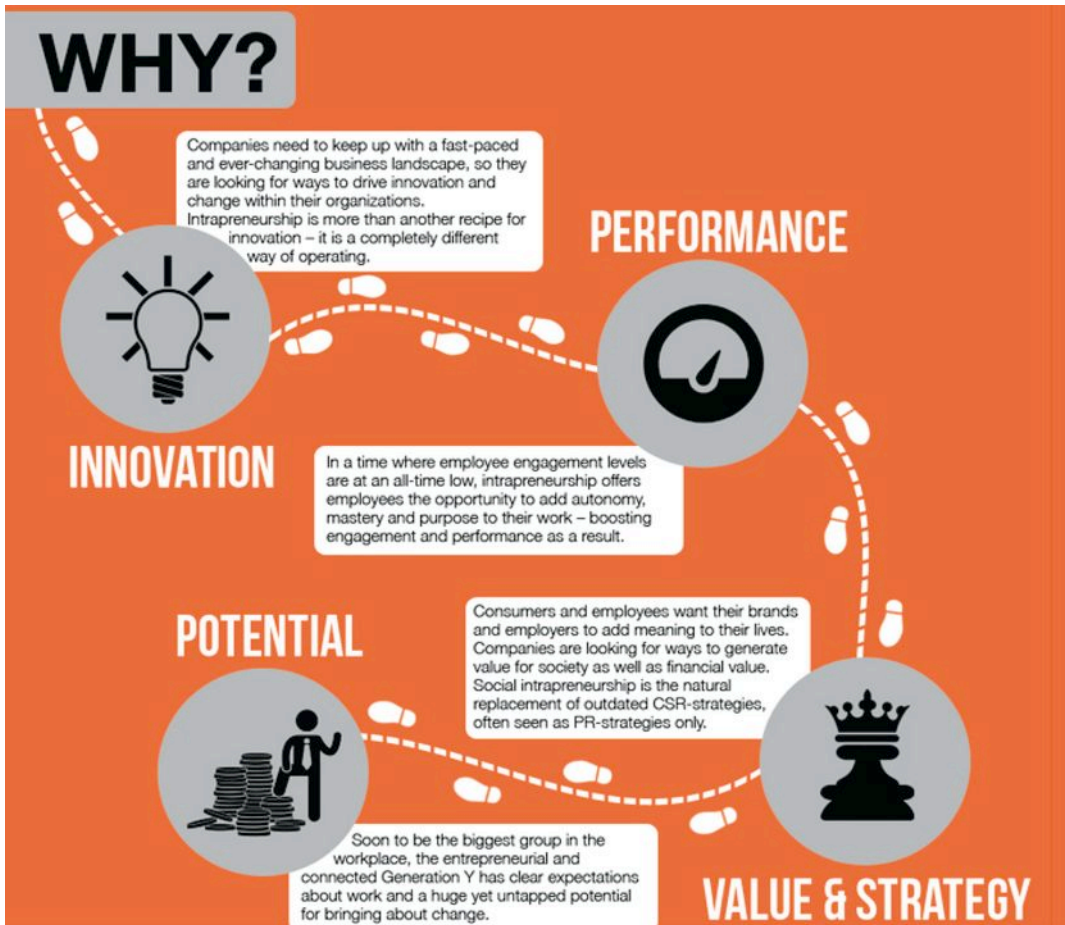
Figure 5: The reasons for introducing intrapreneurship[14]

Extended enterprise is a concept where a company takes an open innovation approach and connects closely to the surrounding ecosystem through freelancers, effectual entrepreneurs, researchers, and students. This may also include organizing physical workspace for those engaged inside the walls of the company. At least, some virtual collaboration platform should be at the disposal in order to guarantee proper online communication with connected stakeholders.

We may call the "responsive organization" a certain type of extended enterprise. According to webpages of the movement,[15] a responsive organization is able

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[14]   http://www.intrapreneurshipconference.com/all-you-needed-to-know-about-intrapreneurship-in-one-infographic/?goback=%2Egde_3680954_member_58132751329819 64804#%21

[15]   See more here: http://www.theresponsiveorg.com/

to take benefit from the interaction dynamics of the ecosystem, and by definition this means that it is able to communicate and interact effectively. The whole idea behind this thinking is that because the pace of change is becoming a decisive factor, the companies slow to react are loosing their edge. If your customers outpace your company, you certainly need a disruption.

In a webcast by Yammer[16] the shocking news was Gallup figures showing that 87 % of global workers are not engaged in their jobs. When the pace of the change increases, the solution seems to be "Push harder!" And that is surely not helping to engage workforce better. This is exactly the same issue as was described with Six Sigma examples earlier. The problem in many cases can be crystallized in **Jack Welch**'s saying: *"When the pace of change outside your company exceeds the pace of change inside your company, the end is near".* This happened to Kodak — and it was also to some extent experienced in Nokia this year.

In that webcast some best practices from Yammer usage was presented. Companies like Zara, Nationwide, and Westfield are among the successful users of new enterprise social platforms. With extensive and widespread use of such a platform these companies can support both intrapreneurship structure and extended enterprise programs. The key for successful introduction of new tool is to start the experiment where the most motivated and curious workers will participate and work with the project, when success will have a strong impact. According to the Yammer experts, sharing the success and giving internal testimonials and communicating the good results both to co-workers and to C-suite people, the momentum will be gained. When there is a clear proof that the people who were engaged in the active use of this tool improve their results and overall well-being, then a company-wide acceptance is achieved.

1.4. Summary

The world is definitely changing and the transformation is gaining momentum. We have clearly seen new technologies emerge and change the power structures in our society. And the speed of this revolutionary shift will surprise many established organizations, those who are not willing to see the emergent signals already here just to be discovered.

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[16]   https://msevents.microsoft.com/CUI/EventDetail.aspx?EventID=1032567852&Culture=en-US&community=1

We will see a fierce battle escalating, when old institutions, governments, and other legacy stakeholders try to resist the evident revolutionary transformation in many frontiers. Community-based, grassroots-level actions will be the driving force of the progress, the increasing awareness of the ambiguity and unpredictability will change the ways individuals, communities, and small companies think and act. Some institutions will survive but their role will be to coordinate and manage the multiple networks that move commerce and trade across the value chain, as Rifkin forecasts.

Moving to the Post-Normal Era is a great opportunity for those who understand the fundamentals of it and are willing to re-think the values and adapt the ways of living and working in this new environment. In the following chapters we try to give some concrete ideas and show proven examples how to thrive in the Post-Normal Era.

Community Building

The future belongs to those
who believe to the beauty of their dreams.

Eleanor Roosevelt

2.1. The Importance of Communities

We believe that the main fundamentals of all the future innovation ecosystems will be communities. In the past a lot of emphasis was put on networks, but our understanding is that the requirements of the Post-Normal Era will replace "the era of networking" with the "the era of communities".

Why? We have experienced a rapid transformation from industrialized thinking to the knowledge society — and even further towards the Post-Normal Era. The old structures are breaking and some of the foremost institutions of last century have collapsed — or are on the verge of collapsing. The development cycles have shortened, the overall predictability is gone, and everything is evaluated on global scale — competence, quality, profitability, and the ability to attract talent.

In this new era we have a strong understanding that networks are too loose, too slow to react and not really easily engaged. Communities — as we understand them – are much more intensive, they support trust building because in order to be a respected member, one has also to contribute to the community activities. Reciprocity is essential! We have been (as a company Karostech) very active in finding effective ways to build communities. In our customer projects we have identified several types of communities. In Table 1 below we want to share one type categorization of the main types of communities. They are categorized in terms of how much they focus on knowledge, business and social and by the type of their cohesive power.

Type of community	Knowledge	Business	Social	Cohesion	Note
Hobbyist	medium	low	high	Bond	Neglected in innovation
Lead user	high	medium	medium	Identity	Sports, games etc.
PVC (Professional Virtual Communities)	medium	medium	medium	Identity/Bond	Balance needed!
Research (basic)	high	low	low	Identity	
Research (applied)	high	medium	low	Identity	
VBE (Virtual Organization Breeding Environments)	medium	high	medium	Bond	Takes time to establish
Virtual teams	high	high	medium	Identity/Bond	VOs are similar

Table 1: *The categories of communities © Ilkka Kakko*

2.2. Definitions

"**Innovation communities** *are defined as an informal network of likeminded individuals, acting as universal or specialized promoters, who often come from different organizations and companies and team up in a project like fashion, and jointly promote a specific innovation, either on one or several levels of innovation system. Innovation communities are therefore characterized as promoter networks or as informal personal networks of innovators.*"[1]

Our experience has shown that this definition of **Fichter & Beucker** does not highlight several important characteristics of a well-functioning innovation community. These fundamental factors include facilitation, goal orientation, and elements of diversity, sustainability and continuity. For the purposes of better understanding the role and functionalities of innovation communities, we in Karostech prepared a more comprehensive definition:

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[1]   Fichter, K., Beucker, S. (Eds.). (2012). Innovation Communities. Teamworking of Key Persons as a Success Factor in Radical Innovation. Berlin, Heidelberg: Springer.

*"**Innovation communities** are facilitated and diverse Collaborative Networked Organizations (CNOs): Virtual Organizations (VOs), Virtual Teams (VTs), Virtual Organization Breeding Environments (VBEs) and Professional Virtual Communities (PVCs), which are involved in creating and promoting innovations and hence form a vital part of the surrounding business ecosystem and are well connected to local and global knowledge ecosystems."* (Karostech 2013)

The definition of Collaborative Networked Organizations — CNOs was coined during a EU Framework 6. Integrated Project, where Joensuu Science Park was also a research and demonstration partner, and Ilkka Kakko in charge of that JSP mission. The theoretical framework is strong with some world leading universities behind the research work. The project published several books by Springer, and especially *"Collaborative Networks: Reference Modeling"* by **Luis Camarinha-Matos and Hamideh Afsarmanesh** (2008), Springer, is worth mentioning. The definitions of VBE and PVC (below) are also taken from that book.

*"**Virtual Organization Breeding Environment (VBE)** represents an association of organizations and number of related supporting institutions, adhering to a base long-term cooperation agreement, and adoption of common operating principles and infrastructures, with the main goal of increasing their preparedness towards rapid configuration of temporary alliances for collaboration in potential Virtual Organization. Namely, when business opportunity is identified by one member (acting as a broker), a subset of VBE organizations can be selected to form a VE/VO."*

*"**Professional Virtual Community (PVC)** is an alliance of professional individuals that aim at being prepared for collaboration under a business perspective, and provide an environment to facilitate the agile and fluid formation of Virtual Teams (VTs) similar to that what VBE aims to provide for VOs."*

The importance of having well-working communities is explained in Figure 6 below. It shows the potential impact of different communities in supporting entrepreneurship. Many start-ups are created because of the earlier activities in various communities. In fact, the understanding of inter-dependencies and the life cycle of communities (transformation and metamorphosis) is an essential element when building up a dynamic VBE.

The understanding of the interdependencies in the figure will help also to develop innovation ecosystems, where these essential elements: various communities in different positions in their life cycle are properly implemented. Our experience has shown that the biggest problem in any innovation ecosystem is the strong focus in the outcome (start-ups) instead of the fundamental pre-incubation part, which is highly dependent on well-working communities.
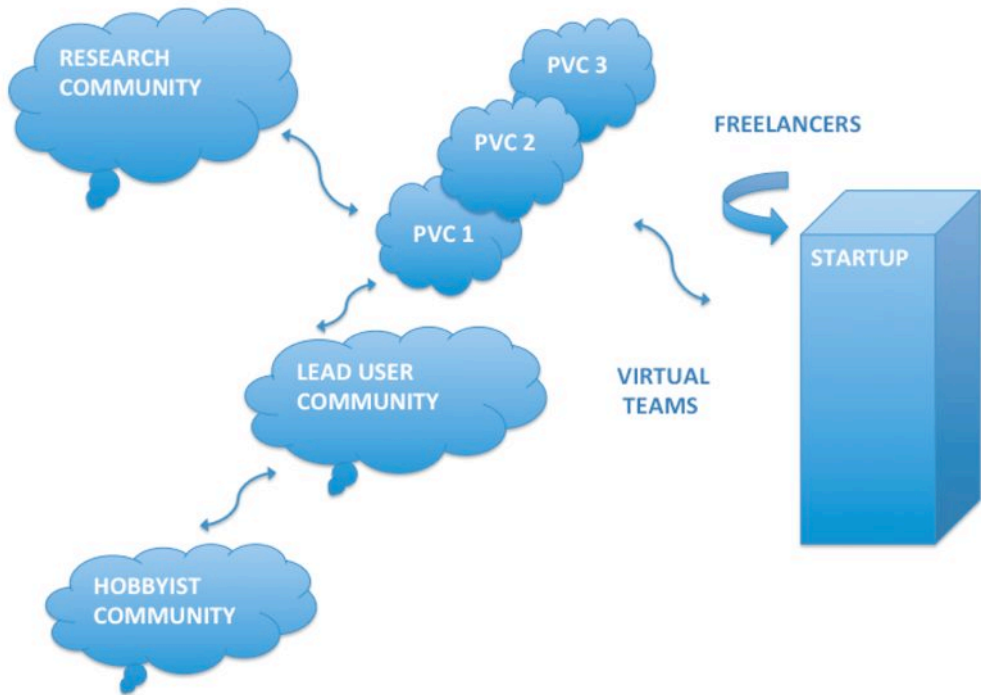
Figure 6: Communities as an essential element for start-up creation

2.3. Innovation Ecosystems

We define innovation ecosystems as complex structures formed by the interaction of the participating communities, companies, and other stakeholders within a business environment. A healthy ecosystem is one, in which participants can thrive and grow, it self-regulates and adapts, as the market needs to evolve. It also generates dynamics by the diverse interactions of different participants. Important structures are the linkages within communities and environments. They work as a membrane towards the external stakeholders and customers. A healthy and sustainable ecosystem is balanced and consists of different types of entrepreneurship (established institutions, big corporations, SMEs, start-ups, effectual entrepreneurs, freelancers, social entrepreneurs), representatives of academia (students, wanna-be-entrepreneurs, experts, researchers) and some supportive organizations like those responsible for regional and national development programs.

The well-functioning innovation ecosystem works like a breeding environment for start-ups and other types of entrepreneurship. Like in the ocean, a coral reef provides a structure that protects fish, provides food, and creates an arena for marine plants and animals to live and thrive, in ecosystem thinking the breeding

environment brings together new companies, experienced business leaders, faculty researchers, government officials, established technology companies, wanna-be-entrepreneurs and investors. This ecosystem provides new companies with a wealth of technical expertise, business experience, and access to capital that supports innovation in the early stages of growth.[2]

The ecosystem is dynamic and the benefits can be harnessed in various way. For the company perspective the benefits of ecosystem is illustrated by **Art Markman** in HBR blog[3]:

If your organization relies heavily on individual innovation, consider creating your own innovation ecosystem, where creative problem-solving experts develop a network of individuals skilled in bringing new ideas to market. There are three essential elements to creating this in your company:

Get the right people involved. The innovation network has to include upper-level management that can fund projects, leaders who have had success with past innovations, technical experts, and external consultants.

Cultivate the network. This extended group should have opportunities to mix together in productive ways. Hold regular meetings, events, and talks where innovators from across an organization can get together and share their experience. Lead innovators need to meet regularly with a variety of groups within a company that are working on innovative projects to help connect together groups that are undergoing similar problems.

Educate others. In order for best innovation practices to diffuse through an organization, it is important to develop those ideas before projects begin. The innovation network should implement a company-wide education program on how to develop good ideas and how to transform good ideas into actionable plans to bring those ideas to market. These lessons should be delivered both to the future leaders within the company (which many companies do well) as well as broadly to the rank-and-file who will ultimately play a significant role in innovation success (which fewer companies do well).

This approach highlights the role of an intrapreneur — a person who is the internal entrepreneur, team leader, and facilitator. Even though the term is not mentioned in the text, it clearly describes that type of action. Many companies have introduced the kind of intrapreneurship supporting programs, yet the results have been mainly disappointing. In order to achieve positive results it's essential to understand that introducing an intrapreneur-friendly business platform requires major changes to company's processes. And of course also the tools have to be available,

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[2]   http://blogs.hbr.org/2012/12/how-to-create-an-innovation-ec/
[3]   Ibid.

here again an engaging virtual collaboration platform (like, for instance, Yammer in corporate settings) turns out to be essential.

Since innovations form the competitive edge not only in products and services but also in the production and logistics processes and even in generating new business models, we like to introduce also two examples of other ecosystems, namely Open Innovation ecosystem for the value chain (Philips) and a performance ecosystem presented by Deloitte University Press, John Hagel & Co.

Figure 7: Open Innovation at Philips Electronics, by Jeffrey Alexander[4]

The Philips ecosystem is a great example of an ecosystem, where open innovation principles are widely supported. Networked organizations are identified as important members of the ecosystem as research institutes, corporate innovators, and start-ups. The balance between the stakeholders is achieved by carefully attracting members with relevant substance. The physical campus, which hosts most of this ecosystem in Eindhoven[5], is also worth visiting. The campus itself consists of more than 120 companies and institutes, and some 8,000 researchers, the leading corporations being Philips, NXP, IBM, and Intel.

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[4] http://www.slideshare.net/JeffAlex/why-innovation-ecosystems-lecture
[5] http://www.hightechcampus.com/about_the_campus/
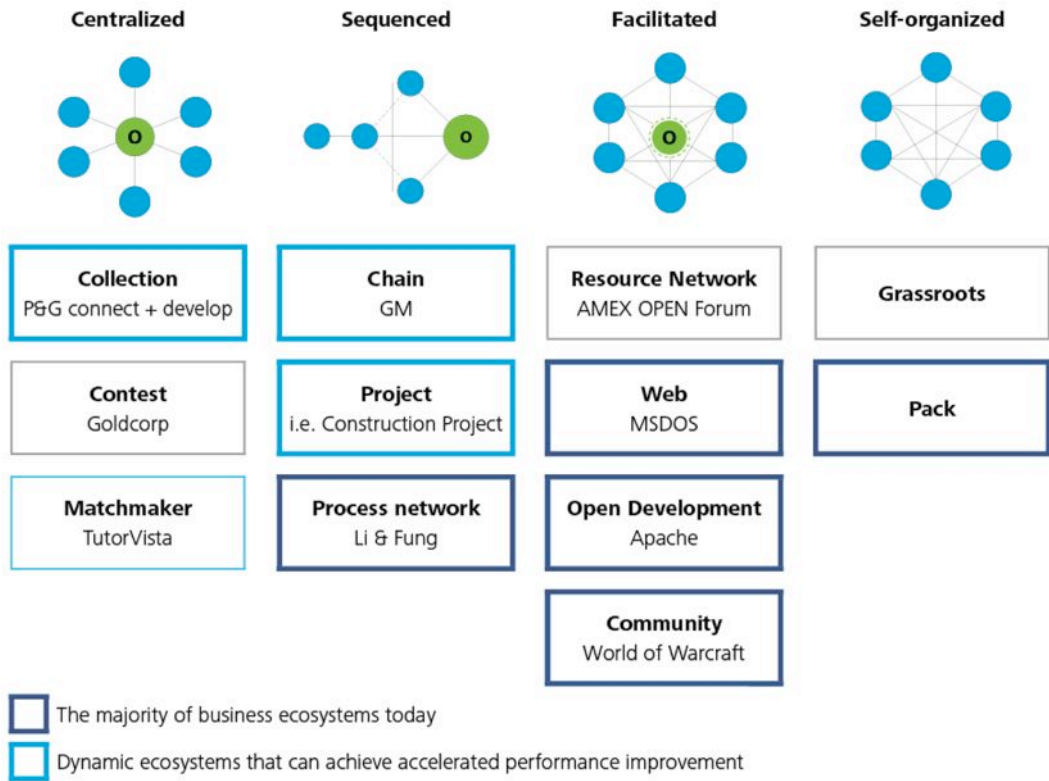
Figure 8: Ecosystem taxonomy by Deloitte University Press[6]

Since "ecosystem" is widely used and the definitions vary, it's appropriate to introduce some different characteristics of various types of ecosystems. Here we refer to the great work by Deloitte.

After an extensive research of more than 50 case studies Deloitte was able to present taxonomy of ecosystems. The categories were identified from observable characteristics of the ecosystem such as basic structure, presence or absence of a central organizer, and the connections between participants. In their comprehensive report, which is highly recommended, they divide the performance ecosystems in four categories:

1. Centralized ecosystems
2. Sequenced ecosystems
3. Facilitated ecosystems
4. Self-organized ecosystems

They also analyzed the case studies regarding various dimensions, namely:

1. Loose coupling: Enabling participants to be easily reconfigured to meet changing demands, resulting in greater flexibility and scalability

2. Access management: Expanding the number of participants that can join, given the appropriate scope and objective of the ecosystem

3. Behavior management: Enhancing the potential for effective interactions through behavioral norms, enforced rules, and participant performance feedback loops

4. Incentives: Using the right combination of extrinsic- and intrinsic-based incentives (including reputation and intellectual challenge) to foster cumulative learning and capability building

5. Action points: Embedding integration or decision milestones in which differences need to be resolved and agreement reached on the best approach for achieving a shared outcome — incorporating multiple action points creates opportunities for productive friction — it sharpens and forces choices

6. Interaction archive: Recording rich content regarding participant interactions as a by-product of their actions, enabling a longer-term view toward the ecosystem's opportunities

The researchers at Deloitte show in practical ways how the traditional companies now have increasing opportunities to evolve from more traditional static ecosystems toward higher performance dynamic ecosystems. The most interesting case in their research from our perspective is Lego Mindstorm[7]. It is classified as a "community ecosystem" and is characterized by:

- Loose interaction between participants
- Anyone can join the network
- Participants have say in the rules
- Non-monetary and long term — based on social exchanges (gifts)
- Participants voluntarily create action points when they collaborate and share ideas
- Web site keeps history of interaction

These examples illustrate the diversity of well working ecosystems. They host different type of entities from big corporations to individual users. Our understanding is that a sustainable ecosystem hosts a variety of players, each of them having an important role in up keeping the balance and vitality of the system.

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[7]   http://www.us.lego.com/en-us/mindstorms/community/

2.4. Community Governance and Management

The understanding of the interdependencies in the ecosystem and the needs of the communities it hosts will give also guidelines to the governance and management of the communities. Naturally, when communities are very diverse regarding to the position in the life cycle, their type, and the overall characteristics, it's difficult to create a very detailed manual for governance and management issues.

The management principles have to be streamlined with the core values of the community. This must be a grassroots-level process and only lightly facilitated. When agreed, the management principles should be communicated effectively to all members of the community. In order to give some guidelines for the process we take an example of Ubuntu — a successful Open Source software community originally from South Africa[8]

Community

Ubuntu is about showing humanity to one another: the word itself captures the spirit of being human.

We want a productive, happy, and agile community that can welcome new ideas in a complex field, improve every process every year, and foster collaboration between groups with very different needs, interests, and skills.

We gain strength from diversity, and actively seek participation from those who enhance it. This code of conduct exists to ensure that diverse groups collaborate to mutual advantage and enjoyment. We will challenge prejudice that could jeopardize the participation of any person in the project.

The Code of Conduct governs how we behave in public or in private whenever the project will be judged by our actions. We expect it to be honored by everyone who represents the project officially or informally, claims affiliation with the project, or participates directly.

We strive to:

- *Be considerate*
- *Be respectful*
- *Take responsibility for our words and our actions*
- *Be collaborative*
- *Value decisiveness, clarity, and consensus*
- *Ask for help when unsure*
- *Step down considerately*

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8   http://www.ubuntu.com/about/about-ubuntu/conduct

Leadership, authority, and responsibility

We all lead by example, in debate and in action. We encourage new partici-pants to feel empowered to lead, to take action, and to experiment when they feel innovation could improve the project. Leadership can be exercised by anyone sim-ply by taking action; there is no need to wait for recognition when the opportunity to lead presents itself.

Delegation from the top

Responsibility for the project starts with the "benevolent dictator", who del-egates specific responsibilities and the corresponding authority to a series of teams, councils, and individuals, starting with the Community Council ("CC"). That Coun-cil or its delegated representative will arbitrate in any dispute.

We are a meritocracy; we delegate decision-making, governance, and leader-ship from senior bodies to the most able and engaged candidates.

Support for delegation is measured

Nominations to the boards and councils are at the discretion of the Community Council, however the Community Council will seek the input of the community be-fore confirming appointments.

Leadership is not an award, right, or title; it is a privilege, a responsibility, and a mandate. A leader will only retain their authority as long as they retain the sup-port of those who delegated that authority to them.

We value discussion, data and decisiveness

We gather opinions, data, and commitments from concerned parties before tak-ing a decision. We expect leaders to help teams come to a decision in a reasonable time, to seek guidance or be willing to take the decision themselves when consensus is lacking, and to take responsibility for implementation.

The poorest decision of all is no decision: clarity of direction has value in itself. Sometimes all the data are not available, or consensus is elusive. A decision must still be made. There is no guarantee of a perfect decision every time — we prefer to err, learn, and err less in future than to postpone action indefinitely.

We recognize that the project works better when we trust the teams closest to a problem to make the decision for the project. If we learn of a decision that we disagree with, we can engage the relevant team to find common ground, and failing that, we have a governance structure that can review the decision. Ultimately, if a decision has been taken by the people responsible for it, and is supported by the project governance, it will stand. None of us expects to agree with every decision, and we value highly the willingness to stand by the project and help it deliver even on the occasions when we ourselves may prefer a different route.

Open meritocracy

We invite anybody, from any company, to participate in any aspect of the project. Our community is open, and any responsibility can be carried by any contributor who demonstrates the required capacity and competence.

Teamwork

A leader's foremost goal is the success of the team.

"A virtuoso is judged by their actions; a leader is judged by the actions of their team." A leader knows when to act and when to step back. They know when to delegate work, and when to take it upon themselves.

Credit

A good leader does not seek the limelight, but celebrates team members for the work they do. Leaders may be more visible than members of the team; good ones use that visibility to highlight the great work of others.

Courage and considerateness

Leadership occasionally requires bold decisions that will not be widely understood, consensual, or popular. We value the courage to take such decisions, because they enable the project as a whole to move forward faster than we could if we required complete consensus. Nevertheless, boldness demands considerateness; take bold decisions, but do so mindful of the challenges they present for others, and work to soften the impact of those decisions on them. Communicating changes and their reasoning clearly and early on is as important as the implementation of the change itself.

Conflicts of interest

We expect leaders to be aware when they are conflicted due to employment or other projects they are involved in, and abstain or delegate decisions that may be seen to be self-interested. We expect that everyone who participates in the project do so with the goal of making life better for its users.

When in doubt, ask for a second opinion. Perceived conflicts of interest are important to address; as a leader, act to ensure that decisions are credible even if they must occasionally be unpopular, difficult, or favorable to the interests of one group over another.

This Code is not exhaustive or complete. It is not a rulebook; it serves to distill our common understanding of a collaborative, shared environment and goals. We expect it to be followed in spirit as much as in the letter.

In Ubuntu's case the core message can be compressed in three main topics:

- The name of the community is important and
- Respect is essential, it goes all the way from self-respect to the respect of the system and the rules
- Common understanding is the fundamental power of the community

Ubuntu is more like VBE (Virtual Organization Breeding Environment) where virtual teams and communities emerge in respect to the tasks at hand. The pure PVCs are more common type of communities and therefore in our focus. The research work in ECOLEAD 6th Framework Integrated EU-project and our interaction with customers have clearly validated that in PVC environments the main success factor for a well working PVC is the balance between business, knowledge and social dimensions. If one dimension is dominant, then the overall dynamics of the PVC is not ideal. In Figure 9 below a sound PVC approach is explained.
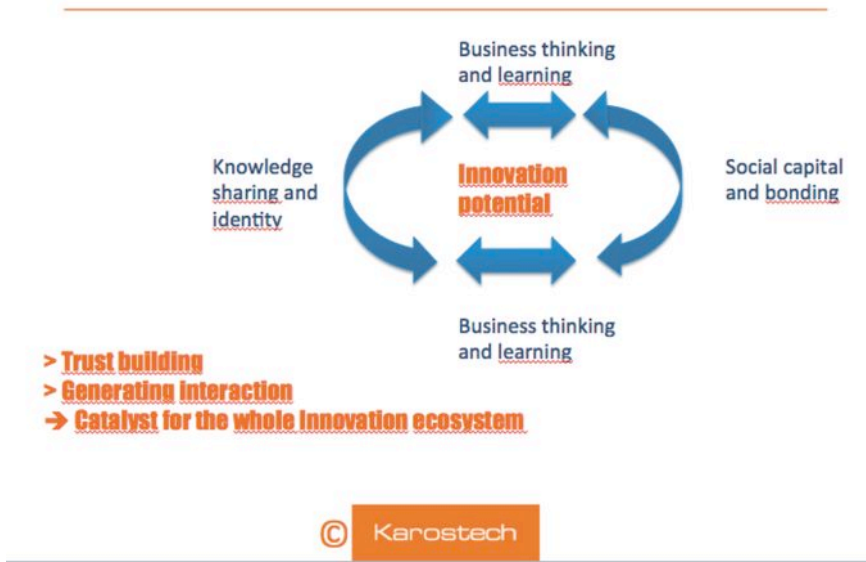
Figure 9: Ideal PVC – KBS (Knowledge, Business, Social) balance, both identity and bonding as cohesive factors

Our experience has shown that most PVCs are lacking the "Social" element. It is in many cases understandable (like in research communities) but adding enough "Social" elements will automatically help generating trust and support cohesion with bonding element. If the cohesion is based only on identity and most of the communication is online, then the challenge is that members might not become engaged and the overall potential is not harnessed properly. There is a great presentation by **Robert Kraut** from Carnegie Mellon, of the social psychology factors, which have to be taken into account when facilitating online communities.[9]

The social element is important also from the serendipity perspective. Great communities are the hotspots of serendipitous findings, but this requires that "Social" is in balance with "Business" and "Knowledge". Having followed very closely

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[9]   http://www.youtube.com/watch?v=XfC5uzLDo1c

the emergence and activities of some of the best online communities (explained in detail later in this chapter) one fact is clear: those PVCs able to highlight also the social perspective are flourishing. The best example is "Living Bridges Planet" — community, which in a way represents the Meta-community thinking, so it's the community of hundreds of community leaders from a wide variety of disciplines throughout the globe. The "Social" factor is strongly supported by regular Google Hangouts and face-to face meetings in various conferences, BarCamps, and other events.

As we defined some of the community types in *Chapter 1*, now we will elaborate this further. In Figure 10 below we have an interesting exercise, where we have positioned different PVCs in Business/Knowledge/Social triangle. ECOLEAD research project validated the hypothesis that an ideal PVC is balanced, in this picture the "Ideal PVC" is number 9. For community managers this kind of approach is valuable, because it illustrates the potential improvements in community action.

From this figure we discover that most PVCs are far away from the ideal position. To become a productive community manager, one has to know, how to support communities to find a productive balance. We have worked in our company for years to analyze the situational references and to introduce concepts like Training Camp, Walk and Talk, and Wilderness Treats. They are all concepts where "Social" dimension is supported and hence the overall improvement of the community dynamics is improved.
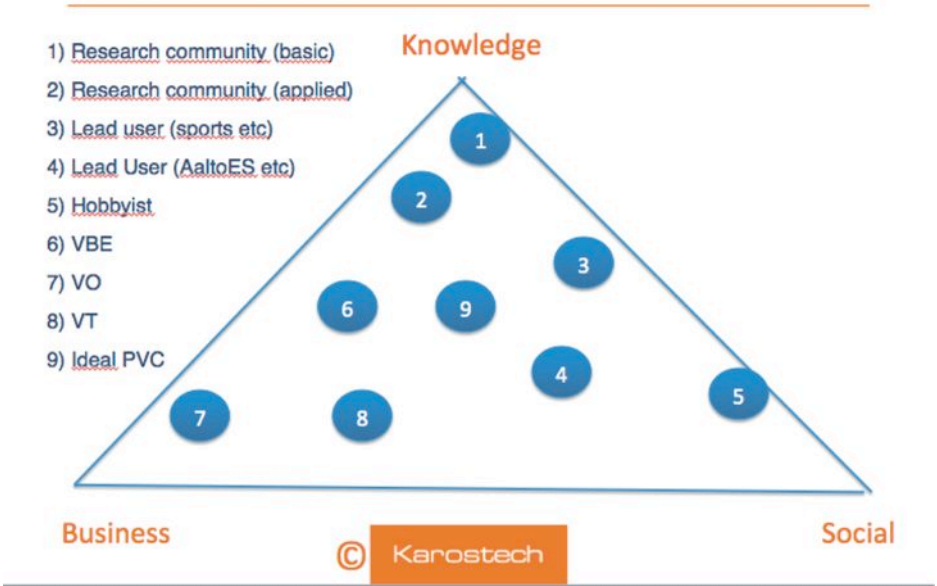
Figure 10: Different communities positioned in KBS triangle

2.5. Community Values

For the communities, well-indicated and communicated values is the skeleton of the activities. They also act as an attraction factor, so it is the main responsibility to any community manager to clarify them. Our studies have shown that there are numerous ways to create the values. The vital element, however, is that the values are created on grass-roots level. Those "push" — top down — value creation processes are doomed to fail.

There are several ways to facilitate the value creation process. Our example of Ubuntu already illustrated in previous chapter an example of ongoing process of updating the values. The community leaders are all the time following the actions and the evolution of values is happening real-time.

For a new initiative like FabLab Polytech in Saint Petersburg, this is a challenge. The outlines of the values have to be determined by the operators, but when those communities begin naturally emerge, and then it should be a grass-roots level, self-organized process. Too much "management" or "facilitation" might be even harmful.

The most important decision is, how to attract people, what is the leading cohesion factor, the question of Bonding vs. Identity. In an ideal PVC even this is balanced, both factors are active. The bonding factor guarantees long-term relationships and more engagement — and helps to harness serendipity. The Identity factor attracts highly substance oriented people and supports the information sharing — and the guarantees the quality of interactions and information shared.

The lifecycle of communities and some of the fundamental factors of community building are well illustrated by **M. Scott Peck** in his book: "The Different Drum: Community Making and Peace"[10].

The principles of a sustainable community building, according to Peck, are:

- **Inclusivity, commitment, and consensus:** Members accept and embrace each other, celebrating their individuality and transcending their differences. They commit themselves to the effort and the people involved. They make decisions and reconcile their differences through consensus.

- **Realism:** Members bring together multiple perspectives to better understand the whole context of the situation. Decisions are more well-rounded and humble, rather than one-sided and arrogant.

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[10]   http://www.amazon.com/gp/cdp/member-reviews/A2F6Q1KXCCIKNO/ref=cm_pdp_rev_ title_1?ie=UTF8&sort_by=MostRecentReview#RNG6DW2E3SA2Y

- **Contemplation:** Members examine themselves. They are individually and collectively self-aware of the world outside themselves, the world inside themselves, and the relationship between the two.

- **A safe place:** Members allow others to share their vulnerability, heal themselves, and express who they truly are.

- **A laboratory for personal disarmament:** Members experientially discover the rules for peacemaking and embrace its virtues. They feel and express compassion and respect for each other as fellow human beings.

- **A group that can fight gracefully:** Members resolve conflicts with wisdom and grace. They listen and understand, respect each other's gifts, accept each other's limitations, celebrate their differences, bind each other's wounds, and commit to a struggle together rather than against each other.

- **A group of all leaders:** Members harness the "flow of leadership" to make decisions and set a course of action. It is the spirit of community itself that leads and not any single individual.

- **A spirit:** The true spirit of community is the spirit of peace, love, wisdom, and power. Members may view the source of this spirit as an outgrowth of the collective self or as the manifestation of a HigherWill.

Next Peck goes into detail about the four stages of getting to and maintaining a true community:

1. pseudocommunity
2. chaos
3. emptiness
4. true community

1. **Pseudocommunity**: This is a stage where the members pretend to have a bonhomie with one another, and cover up their differences, by acting as if the differences do not exist. Pseudocommunity can never directly lead to community, and it is the job of the person guiding the community building process to shorten this period as much as possible.

2. **Chaos:** When pseudocommunity fails to work, the members start falling upon each other, giving vent to their mutual disagreements and differences. This is a period of chaos. It is a time when the people in the community realize that differences cannot simply be ignored. Chaos looks counterproductive but it is the first genuine step towards community building.

3. **Emptiness:** After chaos comes emptiness. At this stage, the people learn to empty themselves of those ego-related factors that are preventing their entry into community. Emptiness is a tough step because it involves the death of a part of the individual. But, Scott Peck argues, this death paves the way for the birth of a new creature, the Community.

4. **True community:** Having worked through emptiness, the people in community are in complete empathy with one another. There is a great level of tacit understanding. People are able to relate to each other's feelings. Discussions, even when heated, never get sour, and motives are not questioned.

"In genuine community there are no sides. It is not always easy, but by the time they reach community the members have learned how to give up cliques and factions. They have learned how to listen to each other and how not to reject each other. Sometimes consensus in community is reached with miraculous rapidity. But at other times it is arrived at only after lengthy struggle. Just because it is a safe place does not mean community is a place without conflict. It is, however, a place where conflict can be resolved without physical or emotional bloodshed and with wisdom as well as grace. A community is a group that can fight gracefully"

Like mentioned before, no detailed rules or procedures are available, every community is unique and creates the values from the grass-roots level. To illustrate the challenge we want to show some of the values of a diversity of communities. We are very aware of the process of value creation and the common values of Oasis tribe (the community responsible for netWork Oasis implementation in Joensuu Science Park). The values were mostly defined in the Training Camp event and very actively communicated after that. That really shaped the community and some people were just dropped out because they didn't share the values, also a couple of new, which later on turned out be very valuable members, were attracted to join the initiative after Training Camp. The values of Oasis tribe (tribe is in our understanding even more committed and cohesive form of engagement than a community) are following:

1. Love your potential
2. Trust yourself
3. Trust your tribe/community
4. Encourage diverse interactions
5. Respect serendipity
6. Become connected to your higher potential

7. Feel the flow
8. Learn from nature
9. Create co-discovery
10. Celebrate the results
11. Enjoy your wellbeing

In order to show the variety of values let's take here into comparison the values of Ubuntu community, which were already presented earlier:

1. Be considerate
2. Be respectful
3. Take responsibility for our words and our actions
4. Be collaborative
5. Value decisiveness, clarity, and consensus
6. Ask for help when unsure
7. Step down considerately

It's interesting also to show some of the value creation process in an emergent community. These are the working principles of Urban Mill, Otaniemi, Finland. In a way they work as platform for the value creation, which again happens in everyday life in the community. In this point they present the ideals and working principles, and it's going to be interesting to follow how they'll transform in the future — and will be crystallized as "real" values.

1. Doors open for all Urban pioneers (only one big theme)
2. Attract creative people, co-create meanings, make sense
3. Just start and try it! Build & Test Learn Cycle (with users)
4. Dialogue through boundary objects (physical, virtual, social)
5. Shared resources and practices, memory of the place!
6. YES, and... (instead of NO, but...)
7. Be connected, boost interactions, allow serendipity
8. Merge enthusiasm of youngsters to wisdom of seniors
9. Schools, businesses, and public bodies
10. Entrepreneurial action, effectual entrepreneurship
11. Glocal, multi-disciplinary, cross-industry activities
12. Return-on-Community (ROC) matters, space supports

As indicated above, the values and the ways that they are created may differ a lot. The type of community (hobbyist, lead user, etc.) and the position in the life cycle are the decisive factors. However, our experience has showed that the best performing communities are also continuously adjusting the values. The emergent community (like Urban Mill) has introduced values, which look more like the codes of conduct. The underlying value generation is in Urban Mill under way and when the community is growing rapidly, the flexible approach is needed to allow the grassroots-level impact to be sensed.

2.6. Online Communities

The rapid development of social media and the attitude and creativity of social media lead users has enabled a certain type of PVCs to flourish. I am especially impressed of the dynamics and impact of some Facebook groups, which operate as real communities and are in fact very close to the ideal KBS balance as indicated in Figure 10. The can be categorized as Lead User communities although they vary in their characteristics and mission quite considerably.

I have personally experienced, as an active member of the group, the rise of some of these great communities and it's amazing to notice, what kind of impact they have already had. As a member one can benefit from the community in various ways:

1. To be connected to the flow of information
2. To build up your social capital
3. To contribute in matters that you are passionate about
4. To be inspired by the passion other members show
5. To make impact locally — and even globally

The success of these communities is based on the motivation, even passion of the core community members. Their inspiring attitude and leadership will attract people to the community and the dynamics, plus in many cases also very important information input comes from the diversity of other members, which I would call "hang-around members" — in a positive sense.

The special characteristics especially in these global communities (like Living Bridges Planet, IoT, SoCap, Next Edge and Serendipity Management) is that they somehow are able to add also the social element into the community activities, even though 98 % of the interaction is happening through internet. They use extensively Google Hangouts and promote also physical conferences, Un-Conferences,

BarCamps, and other events, where the members have the opportunity to meet face to face. Very often a local or national event is broadcasted and also linked with then Google Hangout panel to the global community and that's a brilliant way to engage the members and therefore also create real impact.

Here is the list of some online communities, which I have understood to have enough dynamics and competent, motivated people to make impact

On Global level:

● Living Bridges Planet — https://www.facebook.com/groups/livingbridgesplanet/

● Serendipity Management — https://www.facebook.com/groups/6655331989/

● Next Edge — https://www.facebook.com/groups/120497731371323/

● SOCAP Network — https://www.facebook.com/groups/SOCAP/

● Internet of Things — http://www.linkedin.com/groups?gid=73311&trk=vsrp_groups_res_name&trkInfo=VSRPsearchId%3A725001385300411211%2CVSRPtargetId%3A73311%2CVSRPcmpt%3Aprimary

Also another type of dynamic PVCs is emerging at the moment. They use crowdsourcing principles, open up the challenges to interested parties, and facilitate the process by core people's direct involvement and many times work on the tasks, where national level challenges are tackled.

Examples presented here are from Finland and Ecuador:

● Tulevaisuusvaliokunnan Radikaalit Teknologiat (in Finnish) https://www.facebook.com/groups/TuVRadikaalit/

● http://floksociety.org/en

The first one is a great example of establishing a community based on attraction. The challenge was to crowdsource the creation of a comprehensive report of 100 radical technologies and their impact to Finnish value-creation networks to number of experts, but only for those attracted by the theme. The objective of the work was to evaluate and describe the challenges and future impact of those important technologies to Finnish economy. The work was ordered by the Finnish Parliament and it was organized by **Risto Linturi**, who has gained an extensive social media presence.

In just two months a lot of various perspectives and shared links were presented and commented in online discussions by about 350 leading thinkers and the outcome was reported on November 2013 to the Parliament. Even although the original mission was accomplished, the Facebook forum stays active, now the follow-up and the introductions of new links related to the topic are the main content. The driver of the forum, **Risto Linturi**, explained the overall success of the approach in a face-to-face discussion with me. He was extremely happy with the expertise and motivation of the contributors. Also the number of interested members was much higher than expected and he plans to continue using this approach also in the new initiatives in the future.

The later one is a national initiative, where the government of Ecuador will utilize peer-to-peer production in creating new structures and policies to improve the economics of Ecuador. The initiative is in very early stages, but surely something to be watched closely. And the best way to learn and follow is to get you engaged to the real action; the initiative is open for all parties interested.

2.7. Summary

The well-working communities are the skeleton of a healthy ecosystem. Their importance for the dynamics of the ecosystem has not yet been widely recognized. Traditional incubation practices focus in start-ups and the vital pre-incubation phases are neglected. Finding the right "wanna-be-entrepreneurs" is in these kinds of incubation settings depending on pitching events and business idea competitions. Those practices will not anymore be valid when the vitality and potential of being a successful business is judged by the quality of the team and its ability to solve the real problems of the given customers. And understanding this process is in many cases automatically embedded to the communities in the ecosystem.

The emergence of the Post-Normal Era will change this conventional business thinking. The competition will be in the future between ecosystems, not that much anymore between companies. The dynamic ecosystems will be able to attract new participants, to form vibrant communities and therefore they are also able to produce successful companies, dynamic effectual entrepreneurs, and motivated freelancers.

The abilty of the fluid team building and rapid configuration of resources is the competitive edge of community-based ecosystems. It also helps to support serendipitous encounters and events to happen. This was proven in netWork Oasis project, and in the following chapters we will explain the basic philosophy and the proven practices in more detailed way.

Oasis Approach towards Entrepreneurship

I see our institutions shining with a brilliance similar to constellations which astronomers tell us they are dead since a long time.

Michel Serres

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A vacationing American businessman standing on the pier of a quaint coastal fishing village in southern Mexico watched as a small boat with just one young Mexican fisherman pulled into the dock. Inside the small boat were several large yellowfin tuna. Enjoying the warmth of the early afternoon sun, the American complimented the Mexican on the quality of his fish.

"How long did it take you to catch them?" the American casually asked.

"Oh, a few hours," the Mexican fisherman replied.

"Why don't you stay out longer and catch more fish?" the American businessman then asked.

The Mexican warmly replied, "With this I have more than enough to support my family's needs."

The businessman then became serious, "But what do you do with the rest of your time?"

Responding with a smile, the Mexican fisherman answered, "I sleep late, play with my children, watch ballgames, and take siesta with my wife. Sometimes in the evenings I take a stroll into the village to see my friends, play the guitar, sing a few songs…"

The American businessman impatiently interrupted, "Look, I have an MBA from Harvard, and I can help you to be more profitable. You can start by fishing several hours longer every day. You can then sell the extra fish you catch. With the extra money, you can buy a bigger boat. With the additional income that larger boat will bring, before long you can buy a second boat, then a third one, and so on, until you have an entire fleet of fishing boats."

Proud of his own sharp thinking, he excitedly elaborated a grand scheme, which could bring even bigger profits, "Then, instead of selling your catch to a middleman you'll be able

to sell your fish directly to the processor, or even open your own cannery. Eventually, you could control the product, processing and distribution. You could leave this tiny coastal village and move to Mexico City, or possibly even Los Angeles or New York City, where you could even further expand your enterprise."

Having never thought of such things, the Mexican fisherman asked, "But how long will all this take?"

After a rapid mental calculation, the Harvard MBA pronounced, "Probably about 15–20 years, maybe less if you work really hard."

"And then what, señor?" asked the fisherman.

"Why, that's the best part!" answered the businessman with a laugh. "When the time is right, you would sell your company stock to the public and become very rich. You would make millions."

"Millions? Really? What would I do with it all?" asked the young fisherman in disbelief.

The businessman boasted, "Then you could happily retire with all the money you've made. You could move to a quaint coastal fishing village where you could sleep late, play with your grandchildren, watch ballgames, and take siesta with your wife. You could stroll to the village in the evenings where you could play the guitar and sing with your friends all you want."

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3.1. Effectual Entrepreneurship

The old Mexican story above of a fisherman meeting a Harvard MBA is illustrative and gives a great introduction to the topic.[1]

For the co-working community — and especially in the environments like maker spaces (FabLab) — the most natural way to create business activities is using the principles of effectual entrepreneurship. Where business development is based on rapid prototyping and close communication with the key customer, then effectuation is the right approach. There is no need to practise elevator pitches, to produce slide shows and video clips, and to write (and re-write) business plans, when the passion drives the potential entrepreneur to produce something concrete and tangible.

The foundation of effectual entrepreneurship was laid by **Saras Saravathy**, a professor at the University of Virginia's Darden School of Business and **Stuart Read** from IMD Business School Switzerland and it is rapidly gaining momentum as a sustainable business philosophy.[2]

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[1]   http://www.examiner.com/article/mexican-fisherman-meets-harvard-mba-rich-reminder-of-what-really-matters-life

[2]   www.effectuation.org

We can find various reasons for the emergent renaissance of this:

1. The ongoing "start-up hype" is at the peak and our forecast is that it's starting to loose momentum.

2. People are more conscious about the real problems of the world and interested to solve them collaboratively (SLUSH 2013 in Finland was a clear evidence, the most interesting start-ups were not anymore gaming and mobile apps like in earlier years).

3. "Bird in hand" type of entrepreneurship has been the way to conduct business for centuries.

4. The barrier to start the business and get it going is much lower than in the start-up scene, where the first round finance is often a decisive factor — and hard to find.

5. Most of the challenges in the world are local/regional and in many cases not scalable.

6. Even though they are scalable, the solutions have to be localized and the proof of the concept has to be accomplished.

The statement above does not want not undermine some of the good results in the start-up scene. This year's SLUSH gave a great overview of the developments also in new sectors such as sustainable energy, health care, retail business, transportation, and service industry. The momentum in the start-up scene is hopefully also moving towards solving the real problems of the world. And this could open up interesting new collaborative business models, which will emerge in dynamic ecosystems.

The advocates of this ancient but at the moment re-introduced business approach, **Saras Saravathy** and **Stuart Read**, have named it as effectual entrepreneurship (or expert entrepreneurship). We started to call this kind of approach as life-style entrepreneurship, being long time advocates of that philosophy ourselves. Effectuation in entrepreneurship context follows five simple principles:

1. Bird-in-Hand Means

When expert entrepreneurs set out to build a new venture, they start with their means: who I am, what I know, and whom I know. Then, the entrepreneurs imagine possibilities that originate from their means.

2. Affordable Loss Principle

Expert entrepreneurs limit risk by understanding what they can afford to lose at each step, instead of seeking large all-or-nothing opportunities. They choose goals and an action where there is upside even if the downside ends up happening.

3.   Crazy Quilt Principle — Partnerships

Expert entrepreneurs build partnerships with self-selecting stakeholders. By obtaining pre-commitments from these key partners early on in the venture, experts reduce uncertainty and co-create the new market with its interested participants.

4.   Lemonade Principle — Leverage Contingencies

Expert entrepreneurs invite the surprise factor. Instead of making "what-if" scenarios to deal with worst-case scenarios, experts interpret "bad" news and surprises as potential clues to create new markets.

5.   Pilot in the Plane Principle — Control vs. Predict

By focusing on activities within their control, expert entrepreneurs know their actions will result in the desired outcomes. An effectual worldview is rooted in the belief that the future is neither found nor predicted, but rather made.

	Start-up	**Lifestyle**
Resources	Skills, idea, team, someone's capital, often an "artificial" or minor problem	Experience, social capital, key customer, real world problem
Attitude	Getting funding, becoming rich (passion), team and IPR focus	Solving a problem, passion, asking for help from surrounding ecosystem
Approach	IPR creation, focused on the specific issue	Open innovation, new contributors welcome
Decision making	Money talks (investors)	In own hands
Pivoting	Complicated (negotiations with investors needed)	Easy (own decision)
Surprises	Threat, unwanted	Opportunity, expected
Competition	Global	Local, national
Process	Innovation management	Serendipity management
Time span	3–5 years, "then exit"	10–30 years, "making a living"

Figure 11: Comparison of "Start-up" and "Lifestyle" entrepreneurial philosophies
© Ilkka Kakko

Let's study the two approaches towards entrepreneurship; "Start-up" and "Life-style" in more detail. Figure 11 is based on our experience and various discussions

with the "edge thinkers". NOTE: This kind of thinking may be strongly against the current practices and facilitating principles on innovation support field, but there are some clear signals on the market place and society that the option "Lifestyle" will gain momentum in very near future — and it may also mean that the overwhelming start-up hype will start to lose momentum.

Effectual entrepreneurship is for some reason, which is not understandable to me, in the background, when regional development and innovation support is concerned. Most of the innovation platforms — incubators, accelerators, STPs, and regional development programs — do not acknowledge the potential of effectual entrepreneurship and neither that of social entrepreneurship. And that's not at all logical, because the impact of this type of entrepreneurs surely is on the level of most start-up initiatives, if not larger. In many cases the open innovation mentality and realistic worldview of such an entrepreneur will generate more dynamics and hence energy to the ecosystem than a hedonistic start-up company ever is able to generate.

It is encouraging to discover that some newcomers in the field of innovation supporting organizations are highlighting the benefits and dynamics, which effectual entrepreneurship can provide on individual and ecosystem level. Urban Mill in Finland and Village Capital globally are great examples of this trend and they will be studied in more detail later in this chapter.

3.2. Social Entrepreneurship

We consider social entrepreneurship as one form of effectual entrepreneurship, because it follows most of the principles illustrated in the previous chapters. The special characteristic in social entrepreneurship is a stronger aim to produce impact than in other forms of entrepreneurship. In many cases social entrepreneurs are well connected to the operations of other stakeholders in the ecosystem.

The main principles of social entrepreneurship are perfectly described in Social Capital Inc forum[3] that supports the foundation and operations of social entrepreneurs.

Mission & vision: Founded in 2002, SCI's mission is to strengthen communities by connecting diverse individuals and organizations through civic engagement initiatives. We envision a nation where individuals are strongly connected to their neighbors and play an active role in shaping the destiny of their communities. This increase in 'social capital' will result in communities that are safer, healthier, and more vital.

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[3]   http://www.socialcapitalinc.org/about

Importance of social capital: Many studies have shown social capital, social networks, and community engagement to be crucial for positive community outcomes. For instance:

Health & Wellness: Strong social networks are very important for good health; it has been shown that joining and participating in one group cuts your odds of dying over the next year in half. States with high levels of social capital have lower mortality rates and a better quality of life than states with low levels of social capital ("Bowling Alone: The Collapse and Revival of American Community," Robert Putnam (2000), p. 328). The friend of a friend becoming obese has been shown to increase one's own chances of gaining weight even when one has never met that person ("Connected: The Surprising Power of our Social Networks and How They Shape Our Lives," Nicholas Christakis and James Fowler (2009)).

Youth Success: Building up the social capital assets of young people, including relationships with positive adult role models and providing young people with opportunities to contribute, fosters healthy youth development. Harvard Professor Robert Putnam's research indicates that social capital is the single most important predictor of standardized test scores and graduation rates — greater than race or poverty ("Bowling Alone," p. 296–300).

Economic Development: Areas with the highest levels of "community attachment" also had the highest local GDP in the Knight Foundation's "Soul of the Community" study. Communities with high levels of civic health had lower rates of unemployment than comparable communities with lower levels of civic health.

It's typical for social entrepreneurs to be well-connected, and they are able to bond and bridge between different types of initiatives and businesses, which increases the dynamics also in surrounding communities. They have also often a global perspective, because the challenges they try to tackle are on the global scale and need well-coordinated activities — so we could call them "Born Global". One great example of the global perspective is SOCAP Network in Facebook.[4] With more than 6,000 passionate people all around the world — yes, no western world dominance here! — they discuss, share information, and support each other's initiatives in a way that is hardly seen anywhere else in innovation sphere.

3.3. New Initiatives of Supporting Entrepreneurship

The changing dynamics and emerging new structures in the field of entrepreneurship have of course led to the development of new platforms and supportive organizations. The traditional science park model has for instance almost disappeared from

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4   https://www.facebook.com/groups/SOCAP/

Finland. The transformation of the field started when Technopolis — the pioneer and leading figure in Finnish STP field — made a strategic decision to re-organize activities and focus on real estate business. That left some of the services traditionally offered by an STP (like incubation and administration of publicly-funded development projects and programs) outsourced to some not so competent service providers. And that again gave breathing space to new initiatives, which were designed from scratch and had no historical burden of traditional "push" models.

There are at the moment several new models in Finland, Karostech's 3GSP, Urban Mill, and Demola will be explained here, and in addition to that also a global initiative called Virtual Capital will be introduced.

3.3.1. 3rd Generation Science Park — 3GSP

The 3GSP concept is a result of intensive work based on the experiences gained in netWork Oasis project and numerous discussions with the leading experts in the global STP world, The concept has been further developed since 2007 in a spin-off company of Joensuu Science Park, Karostech Ltd. The basic description of the concept is taken from company's webpages is following:[5]

3GSP concept is specially tailored for the future-oriented agile organizations, which believe in the vision they see emerging from the future. The approach will provide a well-working platform for those organizations and communities, which believe the world developing according to the scenario of "The Rise of Research Clouds" presented in the report "The Future Knowledge Ecosystems"[6] by Institute for the Future.

3GSP concept is designed to support the comprehensive understanding of the knowledge ecosystems. It's based on the strong focus on individual and community-level activities and enables new combinations of competences to emerge. With the help of 3GSP ecosystem, the participating organizations and freelancers are able to build social capital and also attract new entrepreneurs and enthusiastic individuals into the ecosystem.

In the incubation process the focus is in the pre-incubation activities. 3GSP creates physical and virtual environments which complement each other forming a DNA of the ecosystem. The core element is the co-working space especially designed for serendipitous encounters and events. 3GSP model has been piloted

5   http://karostech.fi/services/#science
6   check more of "The Rise of Research Clouds" here:
http://www.rtp.org/sites/default/files/Future%20Knowledge%20Ecosystems_0.pdf

already for six years and the proof of concept is attained with netWork Oasis development and implementation at Joensuu Science Park in Finland.

3GSP concept is not heavily bound to real estate and can be geographically dispersed throughout the city, region, or even globally. So most of the investments are allocated to the technology and community building, and in many cases the existing buildings can be utilized with minimum investment burden. Virtual collaboration platform solutions and the node, the co-working space, will keep the innovation communities linked in to the core of the ecosystem activities.

This description gives clearly an idea, that the traditional procedures are not valid anymore. The change — the emergence of Post-Normal Era — is so fundamental that new perspectives are badly needed. Myself being one of the masterminds behind 3GSP-concept, I can vision without hesitation that 3GSP concept will evolve towards becoming truly an **ecosystem orchestration concept**. The developers of the concept have great connections to the leading edge thinkers in the world (and therefore also the flow of information!) and the more piloting locations and the more practical feedback is gained, the more productive and useful the concept will become.

The greatest benefit of 3GSP model is that is modular, so new and revolutionary elements developed elsewhere can become embedded to the concept easily. At the moment for instance both Urban Mill and Demola can be seen as vital elements of the whole 3GSP ecosystem.

3.3.2. Urban Mill — Case Study[7]

Urban Mill is located in Otaniemi campus in Helsinki metropolitan area. It's the latest node of Aalto University's ecosystem, the other main nodes being Aalto Design Factory, Start-Up Sauna and Aalto Entrepreneurship Society. The development of this ecosystem is a great example of the dynamics and life cycle thinking of communities. The first node of the ecosystem, Design Factory, was established in 2008 and the successful transformation of the whole is based on the needs of various communities engaged. The grassroots-level activities of students are nicely combined with some institutional support of Aalto University, business community, and other stakeholders.

The process of creating something like Urban Mill is a novel example of the public–private partnership. The orchestrating initiator and driver taking also an

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[7]   http://urbanmill.org/english/ and several interviews with Kari Mikkelä, the Co-founder
of Urban Mill

operative risk of succeeding is a private company Järvelin Design Oy, and other main stakeholders involved are Aalto University, City of Espoo, and RYM Oy (an industrial RDI consortium of urban development). This kind of setup has proved to be a dynamic foundation for the initiative and could be applied as a leading principle also in other contexts. Mr. **Kari Mikkelä**, Executive Producer of Urban Mill, explains the ambitious vision:

"Urban Mill is as well a co-working space, an innovation community as a change orchestration tool. Urban Mill re-defines the way, how people do joint innovation work, and aims to make societal impact in global urban context. Urban Mill facilitates to re-think how sustainable urban innovations are done, and how urban transformations are orchestrated. Thus, it channels access for its partners and stakeholders to a balanced mixture of appropriate urban innovation actors, thematic contents, collaboration methodologies and a joint development platform.

The community shares one common challenge, which is how to enhance the quality of urban life and services through ICT and built environment development, and how to orchestrate and energize urban ecosystems development."

The development process followed the principles of effectual entrepreneurship and lean start-up methodologies. The funding is mostly from the main users of the facilities, so no venture capital or direct public funding was needed. Sustainability factors are highly respected, the building is a former State Research Centre (VTT) testing laboratory facility in Otaniemi, which was transformed into a 1,300 m^2 flexible co-working and co-creation space by the pioneering Urban Mill community itself. Space elements and modules are flexible and multi-usable, and open to all regardless of who is hosting the subspace. Most of the furniture, technology, resources etc. are recycled and shared among all users. Also fixed costs are shared and even some of the basic facility and special support services are co-produced on social exchange basis.

The theoretical background of the initiative is strong, the pioneering community has a widespread understanding of theories like Nonaka's "Ba", Kaplan & Norton's "Strategy Maps", Susan Star & James Griesemer's "Boundary Objects", Joseph Pine's "Multiverse Framework" along with the theories of Peter Senge, Yrjö Engeström, and Manuel Castells. Figure 12 below will explain the context and main building blocks of Urban Mill approach.

Kari Mikkelä describes the creation and the ongoing development of Urban Mill as *"a facilitated innovation journey, where the collaborative actions and creative dialogue between different Urban Mill actors is boosted and facilitated by*

using physical, virtual and social boundary objects, like shared concepts, methods, probes, prototypes, demonstrations, test-beds, and living labs. Joint development work is guided by a co-created broad vision rather than by strictly pre-planned processes. Urban Mill is not only a platform for coming together, rather it is a venue to re-transform, co-align and channel its users objectives, knowledge, practices, and expected development outcomes for fitting better to the future urban life."
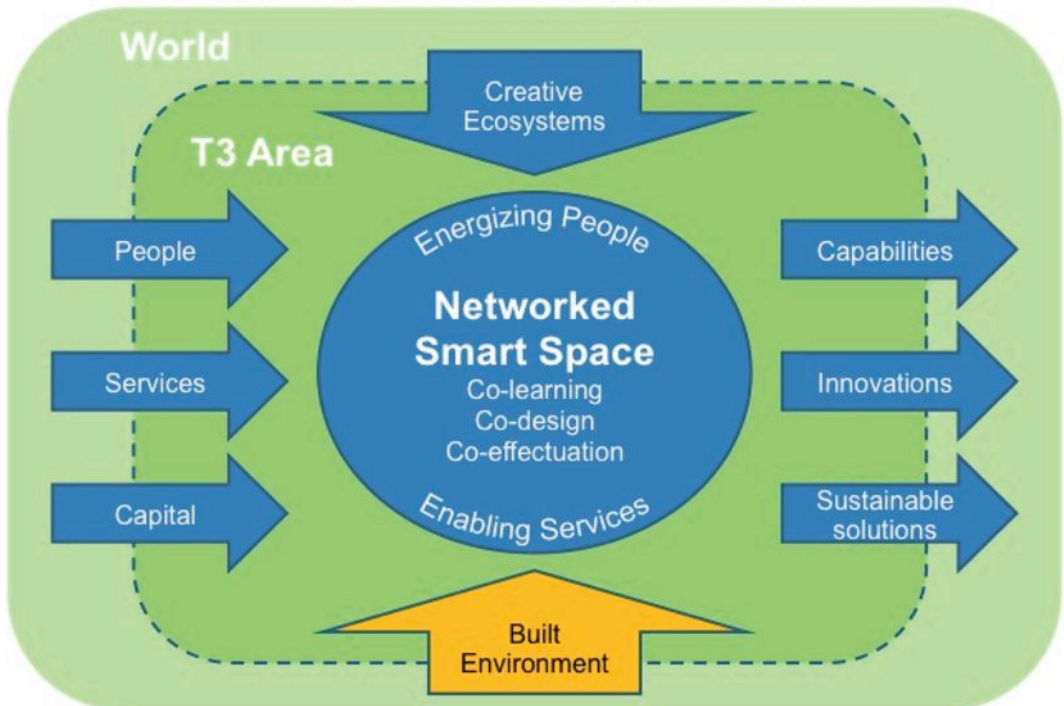
Figure 12: A Networked Smart Space[8] acts as an interface between Creative Human Ecosystems and Built Environment

One of Urban Mill's innovation facilitation roles is to enable "precubation"[9] (early stage innovation incubation) of student-led innovation. Four precubation logics have been tested during the pilot year 2013.

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[8]   K Mikkelä & L Miikki, EUE, RIE Task 7, Concept Presentation (PPT), 2012
[9]   for etymology of "precubation", check:
http://simula.no/applications/si/t2m-commercialization-tool/partners-1

- **Service Innovation from a University Course**: In *Helsinki on Tires (HoT)* case group of students worked in a RDI project for the City of Helsinki as part of their PDP (Product Design Project) course studies at Aalto Design Factory. Prototypes and demonstrations of a spatial biker's service were done using the Urban Mill spaces. After the course Urban Mill supported a 4-months extension period. During that precubation phase one of the students took a summer job and a pop-up HoT Service point was operated and tested, and further exploitation roadmaps of the service design were done together with the City Of Helsinki. The service will be implemented in 2014. http://lahioprojekti.hel.fi/ajankohtaista/helsinki-tires-final-report

- **Product Innovation by University Students**: In *Consair Oy* case two machine-design students were supported with their idea of developing a user-friendly dust-free mortar mix unit for construction companies. Early design work was done in Design Factory. Urban Mill arranged further testing and proto-building facilities for the team and supported promotion of the product towards its own industrial community. Proto sales were done for three construction companies, and test production started. http://www.consair.fi/

- **Early Customer of a Product**: Catchbox case is start-up offering a throwable microphone, which was invented by a student group at Design Factory. In proto phase the product was tested, e.g., in Design Factory and Startup Sauna and sold to others as a service. When CatchBox was ready for global shipping as product, Urban Mill was the first buyer of the product and helped the team, e.g., to test their selling and billing processes. Urban Mill uses Catchbox in its own events and thus promotes the product within its organizational community. http://getcatchbox.com/

- **Early Customer of a Service**: In BeyondGallery case a team of students developed an Art Brokerage Service during the Summer Start-ups Camp 2013 at Start-Up Sauna. Urban Mill acted as the first paying customer of their art service offering. A demonstration point was then established at Urban Mill premises, where potential customers can, e.g., test Augmented Reality properties of the BeyondGallery's service: visual art speaks at Urban Mill! http://beyondgallery.fi/

These precubaton services for the students were made possible by the support of Urban Mill's partner community. All student teams were multi-disciplinary and highly entrepreneurial-oriented, which mentality is well supported by the Aalto University.

Even though Urban Mill is still in the very beginning of the life cycle, it is interesting to discover that many of the elements of 3GSP thinking are included:

1. strong shared vision among stakeholders nurtured
2. community building in focus, engagement through "pull" factors
3. open innovation principles widely used
4. novel orchestration methodologies piloted (facilitation)
5. connectivity (local and global) supported
6. regional knowledge ecosystem thinking embedded

The emergence of Urban Mill proves that novel regional knowledge ecosystems and new types of innovation intermediaries are really needed in this Post-Normal Era. When the prove of the concept has been achieved, Urban Mill concept could be tailored to new locations globally.

3.3.3. Demola — Case Study[10]

The Demola open innovation platform was built to bring academia, industry, and students together in Tampere region, which is one of the main economical regions in Finland. Agile and demo-driven development together with openness were the starting points for designing the Demola environment. Demola's open innovation platform aims to support multidisciplinary and agile development of innovative products and demos. The project ideas come from the industry and public organizations and thus concepts that have practical business importance are developed. Both the industrial and the academia partners that provide guidance throughout the project support the student work. Demola offers a governance framework that facilitates team building and supports emerging business ideas. It also incorporates a model for managing immaterial rights that supports start-ups and respects the authors. On a practical level, Demola provides workspaces that support teamwork and co-creation.

Most Demola partners are companies in the ICT sector. They have the need to rapidly create and test innovative product concepts and services. Recruiting possibilities, academia co-operation, possibility to claim usage rights to developed concepts and gaining experience in open innovation are the main motivational factors for the partners to offer project ideas to Demola. Project partners are responsible for project ideas and for monitoring the progress of the project team. The content and the goals of the project are their responsibility. They coach their project's team

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10   http://tampere.demola.fi/about and an interview with Professor Jukka P. Saarinen, Nokia Research Center, one of the Founders of the initiative and a representative of the key customer, Tampere and several discussions with Ville Kairamo, Head of Demola & Protomo operations.

a weekly average of one to two hours. The team gets advice and pointers that help to guide the project into the right direction but the team makes the project decisions.

For the students the main benefits are that they get industrial experience and valuable contacts as well. The students can get study credits from completed projects to be included in their degree, but that is not the main reason to join Demola projects. However, Demola projects are considered as valuable additions to the study record and to the student's CV. Demola offers to the academic partners the possibility to create and maintain contacts to the industry and through that co-operation tie scientific research to industrial cases. From a pedagogical point of view, providing students a possibility to learn through innovative team projects is a modern approach to teaching. The role of the academic partners is also to instruct the student teams during the projects. The outlook is presented in YouTube.[11]
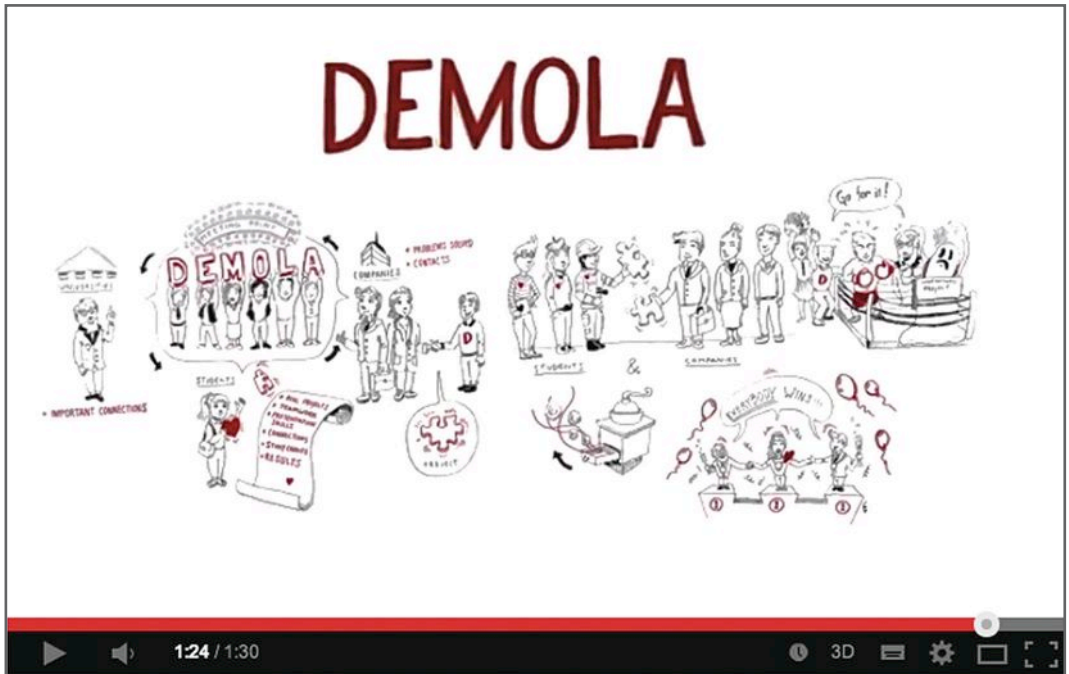
The operative management of Demola works as a facilitator between the companies and the students interested in innovation projects. In addition to collecting the teams, their role is to provide training and guidance to the teams through their projects and to offer working facilities that support community building and teamwork. The Demola personnel also give guidance to the project partners and instruct them in good working practices. In Tampere, Demola employs directly three

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[11]   http://www.youtube.com/watch?v=sTNGHarMRdI

people: one manager and two assistants. Because Demola as a platform wants to encourage self-organization and management of the projects, their own organization can be kept very lean.

Demola's activities are guided by certain project features and values. There are explained in more detail here

1. **Rapid Release Cycle:** Innovative development starts from ideas and concepts. An ideal project timeframe is short, three to four months in duration. Development is done in small increments, the final outcome is loosely specified and the teams have a lot of fluidity in the specification. The current state of the project is demoed regularly to the customer, which resembles a rapid release cycle of a software product. This can also be seen as an open source practice, as the notion of "release early, release often" is applied here within the project scope. An agile, demo-driven development approach with frequent demos enables control of the project focus and its intended outcome.

2. **Close Communication:** The teams commonly meet with the customer on a regular basis. Even though there are no product releases during the life cycle of the project, the customer gets the current version of the product in these meetings. Changes can be made to the requirements and project outcome based on the teams work. Where this practice reached beyond open source is the ability to control the direction of the project and to timebox the development. The projects are usually done in a fixed time frame. While the requirements management is flexible with requirements changed and added as the project evolves, the project runs for a predetermined time. Similar fixed-time projects are known from agile software development and give the project customer control over the end product. They can add, remove, and prioritize the requirements as they go thus controlling the outcome of the project.

3. **Self-Managing Teams:** The teams themselves can be seen through agile practices, where development is built around small development teams or pairs. One Demola project team forms such a unit and has freedom in choosing and adapting the working methods and arrangements as they see fit. It is typical that teams keep in touch regularly, mostly daily, to sync their work progress via chats, online phone applications, or meetings. There is a wide

variation of practices here as the teams and projects vary. What is common to them is the Demola workplace that provides premises and tools to enable independent, collaborative work of the teams as they see best fit.

The results and lessons learnt so far are encouraging. In five years of operation the activities have covered around 250 projects involving 1,500 students only in Tampere region. The concept has raised interest both in Finland and abroad, at the moment there are six Demola centers in operation and some new locations are under development.

The interesting perspective is how Nokia, one of the early promoters, evaluates the results. According to Professor **Jukka P. Saarinen** from Nokia Research Center, the results are encouraging. They have completed about 55 projects out of which he estimates 10–15 % as "very successful" with real impact on Nokia operations (products/services). The other 30 % are classified as "satisfactory" having had impact on Nokia's capacity building and given NRC updated information and new insight. What is encouraging according to Professor Saarinen that altogether 10 % of the projects have resulted to the founding of a new start-up company. This might have happened some time after the project and not necessarily with exactly the same team, but the experiences of working with a global corporation have given the motivation needed to establish a company.

Overall, Nokia rates the possibilities to collaborate with Demola platform high. It can be described from Nokia's perspective to be a great, low-cost piloting platform, which offers the services effectively without bureaucratic proceedings. So far the students have been motivated and skilful, and the commitment of foreign students has been surprisingly strong. That again catalyzes the international student exchange, and some foreign students have even spent their summer holidays doing Demola projects in Tampere. Professor Saarinen sees Demola also as a great recruiting tool, because during the projects Nokia people are able to follow the students in real action with tight deadlines and pressure. He also sees that the concept would fit perfectly into the situations and environments in developing countries.

3.3.4. Village Capital — Case Study

Village Capital[12] is an interesting way to link peer-to-peer support and moderate first round funding requirements together. We would like to call it the "start-up

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[12]   http://www.vilcap.com/

scheme for effectual entrepreneurs". It combines valuable factors in order to generate impact. Each single initiative is peer reviewed and the evaluation criteria are based on expected impact. So it's clearly a "purpose before profit" or "passion before profit" type of approach, which is exactly what we think "lifestyle entrepreneurship" is all about.

The results of Village Capital are impressive and our understanding is that with the rapid accumulation of success stories Village Capital will gain momentum in very near future. Below is an overview or clip of some ongoing or established projects, more examples will be found here: http://www.vilcap.com/programs/current-and-established.

ARTEMISIA
SOCIAL-BUSINESS MODELS

SAO PAOLO, BRAZIL: ARTEMISIA 2013

In Spring 2013, Village Capital partnered with Artemisia to launch our second program in Brazil. Over the course of the Village Capital program, ten of Brazil's most promising enterprises met in São Paulo four times in three month. The program featured super-group meetings and sessions led by Brazil's leading investors and entrepreneurs, with a focus on training the entrepreneur to evaluate their enterprises through the "lens of the investor."

growthafrica
business success achieved

NAIROBI, KENYA: GROWTHAFRICA 2012

In summer/fall 2012, we partnered with GrowthAfrica, and 15 of Kenya's top innovators who are using their ideas to directly address poverty and environmental sustainability. The 4 month accelerator program featuring monthly conferences, supergroup meetings and prominent speakers from Kenya's investment and enterprise community and beyond.

NCIIA Ventures
VentureWell

BOSTON: VENTUREWELL 2012

Village Capital teamed up with the VentureWell program of the National Collegiate Inventors and Innovators Alliance to identify top university innovators in IT and cleantech for an 4-month intensive peer-based program at Greentown Labs in Boston.

Village Capital's main message is to draw on the power of peer support in order to build enterprises, which have the chance to change the world. And the heart of the Village Capital is strong will of **Democratizing Entrepreneurship**:

Peer support is at Village Capital's core. Inspired by the "village bank" in microfinance, we convene and support cohorts of peers. Our entrepreneurs become allies in one another's businesses, sharing insights and inspiration, along with hard-won lessons of practical experience. In partnership with a network of like-minded investors, we convene and deliver programs that…

1. ***Source top entrepreneurs*** *— We're looking around the world for leaders who seek both financial sustainability and impact. To date, more than 5,000 have applied for our programs.*

2. ***Operate targeted training programs*** *— We connect program participants to mentors and formal learning about HR, customer development, financials, scaling their enterprise and their impact. And we focus them on one another through intensive peer review.*

3. ***Deliver investment capital*** *— At the end of each program, top ventures selected by program peers received pre-committed capital through a unique process we call the "lens of an investor."*
Ultimately, we make the hard work of company-building easier by creating a productive program where entrepreneurs draw on one another for the kind of constructive feedback and strategy development that only comes from experience.
Village Capital calls this "Democratizing Entrepreneurship." We're giving the entrepreneurs of tomorrow the best possible opportunity to change the world.

3.4. Summary

In this chapter we explained some interesting types of entrepreneurship, as well as new initiatives and platforms that are emerging because of the diversity of new networked business models. We did not, however, discuss at all about start-up movement, because it receives an overwhelming attention in all other books concerning entrepreneurship. Start-up companies have their role in the innovation ecosystem, and in *Chapter 2*, *Community Building*, we have already opened up the dependencies and special characteristics of start-ups, especially related to their role in ecosystems.

Effectual entrepreneurship and social entrepreneurship were highlighted for the reason that they will have an increasing importance while building sustainable

ecosystems in the Post-Normal Era. Together with actively working communities they form the powerhouse of the whole ecosystem. The dynamics of interaction and the open innovation principles they follow lay a great foundation for a healthy collaboration within the stakeholders. And in this respect they are undervalued in contemporary innovation environments. The hedonistic start-up movement is at the moment still sexier and gets attention, although it's our clear understanding that a too large start-up community will be harmful for the overall dynamics of the ecosystem. A sound balance is needed in order to harness synergies between the members.

The development in Finnish innovation system is in a very interesting phase; new initiatives are emerging and gaining reputation. Karostech Ltd has been one of the forerunners to introduce new features into the innovation environment development. The 3GSP-ecosystem thinking is modular and universal in a way that it fits to a variety of innovation environments. The drive towards sustainability supports the use of existing infra; this is already seen in facility management, Urban Mill being a great example.

Oasis Way of Working — The Toolkit

There are no old roads to new territories.

Boston Consulting Group ad.

4.1. Oasis Way of Working

The netWork Oasis initiative in Joensuu Science Park was an ambitious development project during the years 2003–6. It was founded because the management wanted to find new ways how to tackle the challenges of the future. The main objective was to develop the innovation environment in Joensuu region in a way that it would become more attractive and competitive in the national scale. The main outputs of the project were as following:

- The implementation of the second co-working space in Europe — FlexLab in September 2004 (the first one, also on global level, was eOffice in London) in the existing JSP premises

- The implementation of netWork Oasis, still the "state-of-the-art" co-working space even if compared on international standards, was opened in December 2006 in the new extension building of JSP

- "Serendipity management" approach, a new innovation paradigm, was developed and partly tested during the project

- "Oasis Way of Working" philosophy was introduced

The leading design principle of the netWork Oasis project was created in the very early phases in the project and it was formulated as following: **… to increase the chance encounters between the diversity of people**. This fundamental goal

was set already in 2003 and at the moment it's easy to notice that, in fact, it was a direct statement to support *coincidensity*, as **Stowe Boyd** describes the phenomenon.

One core insight in the conceptual planning of netWork Oasis was that knowledge work is transforming and becoming rapidly integrated. The Oasis way to illustrate the fundamental change was to use the circles: Work–Learn–Play. During the industrial era those circles were separated both on 24/7 and yearly basis. The traditional "9 to 5" type of work dominated our lives and in between the working hours there was some time for relaxation, learning, and hobbies.

The netWork Oasis planning team took the idea of a rapid transformation into the mobile information society seriously already in the beginning of the project in 2003. "eWork" and "mWork" were considered by team to be a real and feasible option to organize the knowledge work in the future. The team pushed the idea so far that part of the name of the project and later on of the name of the built environment, "netWork" was created using the same terminology as eWork. In this context, "net" was indicating that in the future people would be able to work via Internet (Note: the principles of cloud services nowadays) — and it also reminded the team that the physical co-working space will be especially designed for "networking".

The first conceptual workshops resulted the team to immediately think that future knowledge workers will increasingly have new roles in their everyday activities — and the elements of work and life will start to mix. This insight came during the time when people generally started seriously discuss about "work–life" balance, which as a notion is for me an oxymoron and classifies work somehow being separated out of our lives (!). Lifelong learning, edutainment, and worktainment were terms used to illustrate the overlaps between the elements. Yet the most interesting discovery the team made was that these circles are beginning to overlap more and more in the near future — and the planning team ended up with the illustrative picture shown in Figure 13. When the picture was placed on the project room wall, some people in the team started automatically to talk about "Work–life integration", which as a notion is much better illustrating the real activities and dependencies in our everyday worklife. The insights generated from this picture were fundamental for the further development of the project.

During the Training Camp event, which was the official Kick-Off for the conceptual planning in February 2004, one important task for the team was to define the values of the community in such a way that they will attract the talent needed. The values should also enable smooth and innovative operations. The values were discussed not from scratch but based on the initial discussions with four core tribe

members in the preparation of the event. Taking into perspective that Training Camp was attended by fifty people of very diverse backgrounds, it was a bit surprising that the value propositions of the core tribe members were taken with enthusiasm by the majority of participants.
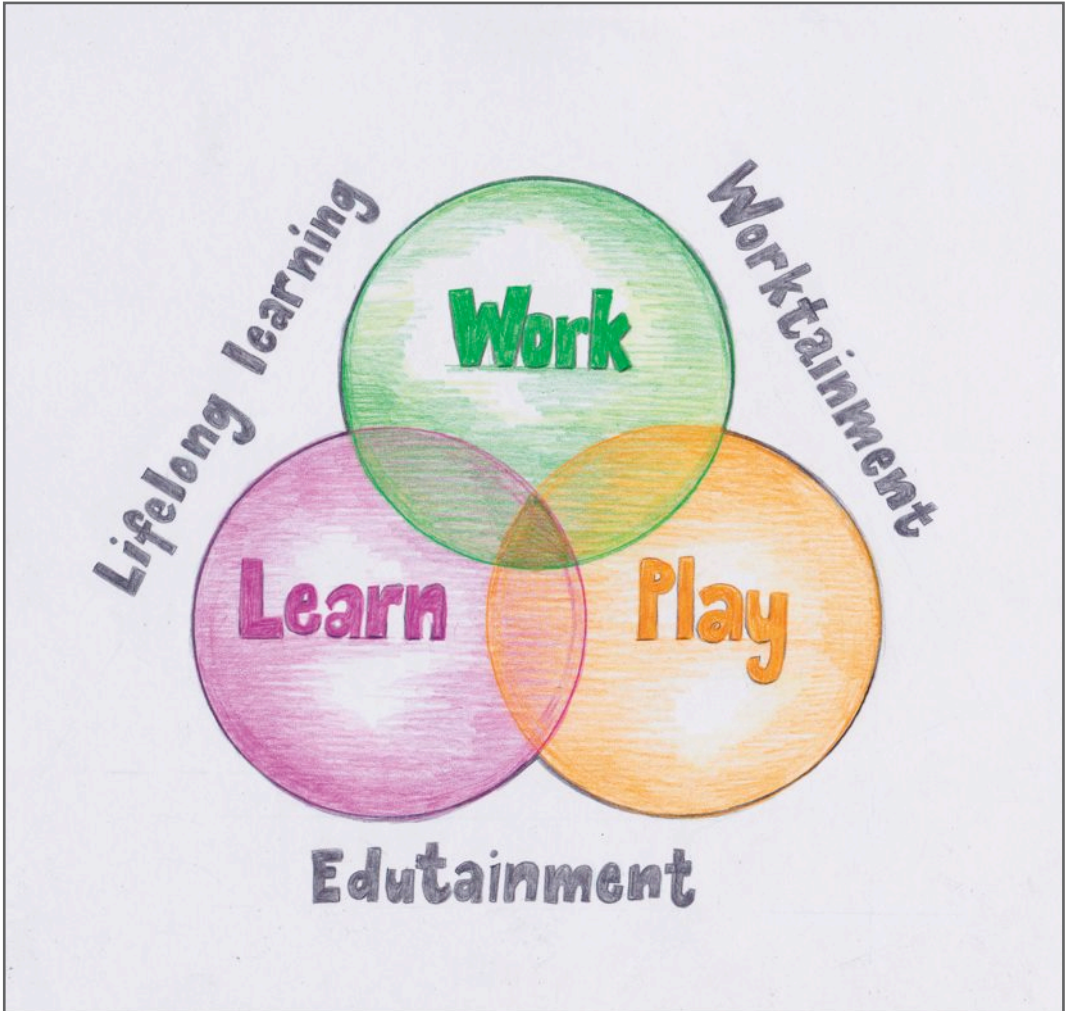
Figure 13: Work–life integration illustrated in Oasis Way of Working

However, there are two important factors to be noticed. First one is that "Feel the Flow" element was totally a new one and was taken into discussions by a proposal of one new team member. The "flow", as a notion, was really an eye-opener for the team and it was warmly welcomed to be included to the values. The second

remark is that the notion of "Respect serendipity" was not at all in discussions at the early stages of the project, it was a clear "serendipitous finding" later on during an internal workshop, when the team discussed how to improve creative processes and how this should be taken into account in the layout structure of the physical space.

While the values of a community play an essential part in successful operations, let's have once more a look at the Oasis values here:

Community values (Oasis tribe)

Love your potential
Trust yourself
Trust your tribe/community
Encourage diverse interactions
Respect serendipity
Become connected to your higher potential
Feel the flow
Learn from nature
Create co-discovery
Celebrate the results
Enjoy your wellbeing

The interesting adding to the list of community values was "Feel the Flow" and in order to understand what we meant by that, we created an illustrative picture (Figure 14). Basically the task of management, and in fact the task of every community member, is to keep the flow zone active all the time. It requires that the challenges and competences be in balance both at the team and individual levels. The best productivity becomes by avoiding the stress — or as later was discovered — in surprisingly many cases also by avoiding boredom.

The whole notion of "Flow" is coined by **Mikhail Csikszentmihalyi** who is acknowledged as one of the pioneers in creativity research. The basic principles of his vision of flow are:

- Optimism
- Integrity
- Ambition
- Perseverance
- Curiosity
- Empathy

Optimistic appreciation of life makes it easy to find flow. Integrity is accomplished when one trusts oneself and is trusted by others. Ambition is the desire "to be the best you, you can be" (as Jim Rohn puts it), and perseverance provides the strength to do so. Curiosity entails being open to all kinds of experiences and it supports lifelong learning. And finally, empathy leads one away from selfishness and helps taking care of others. The main demonstration of empathy is respect to all whom one works with — co-workers, customers, etc.[1]
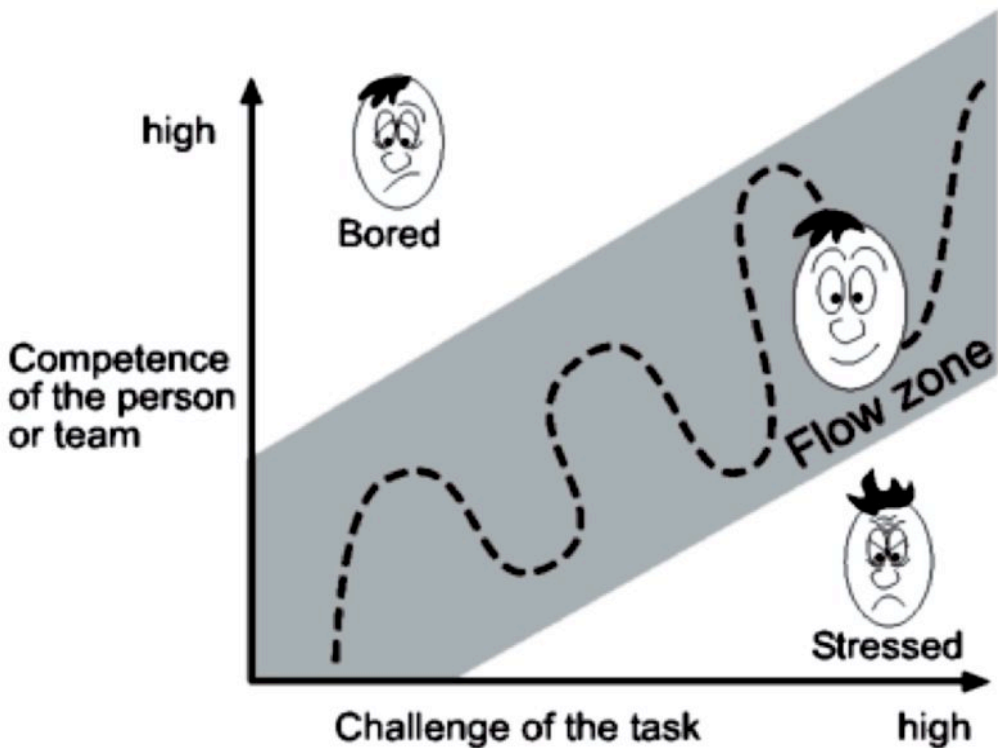
Figure 14: Flow zone

[1]   Ilkka Kakko & Sam Inkinen: "Homo Creativus: Aspects of Creativity and Serendipity Management", XXIV IASP World Conference on Science and Technology Parks, 2007, Barcelona

4.2. The Oasis Project as an Example of Implementing U-Theory

We also analyzed and evaluated our Oasis-project, when the conceptualization was done and the construction work was already in full speed. Interestingly, we discovered that we had unintentionally followed so called U-theory by **Scharmer**, **Jaworski&Kahane** (2004). We got excited about noticing such a connection and were inspired to write a white paper (co-author Tatiana Glotova) "Breeding Environments for Open Innovation", which was presented in ICE Conference in Sophia Antipolis in Summer 2007. The results of our survey inspired a lively discussion at that conference. The comparisons between U-theory approach and Oasis Way approach are illustrated in two following pictures below.[2]

An Example of the U-Process of Leading Profound Innovation: One Process, Seven Elements
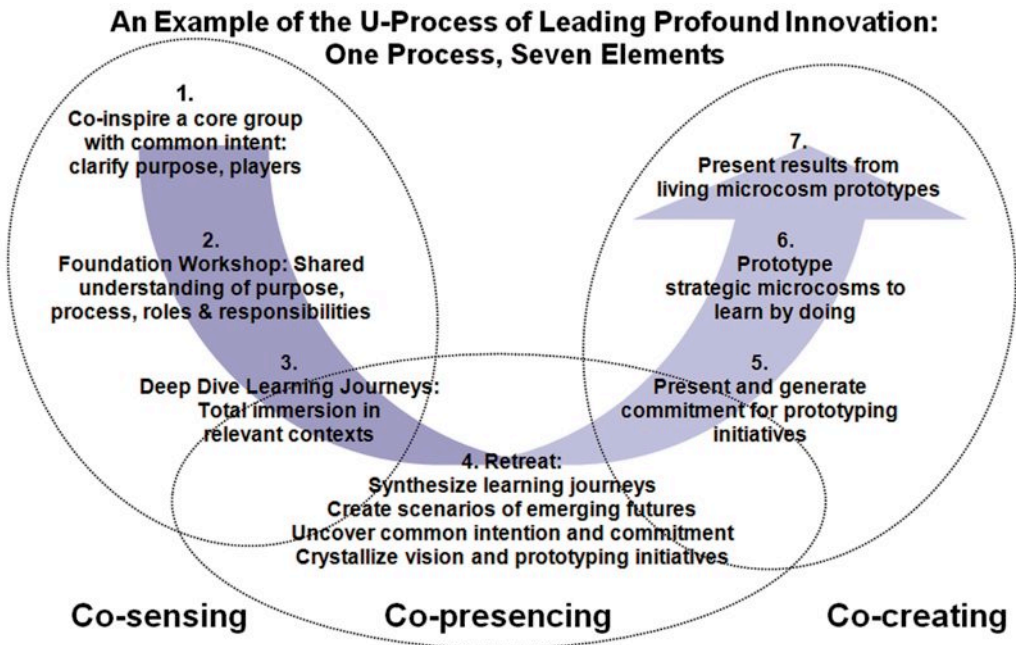
U-theory. Source: Scharmer, C. O., Jaworski, J. Kahane, A., 2004.

"Co-sensing", "co-presensing", and "co-creating" are nowadays terms widely used, but in 2007 they were hardly mentioned at all. After discovering these similarities we had serious plans to continue research and further develop these procedures for the use of science park management, but then the opportunity opened to start

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[2]   Ilkka Kakko, Tatiana Glotova: "Breeding Environments for Open Innovation", ICE Conference proceedings

Oasis Seven Steps: "Oasis Journey"
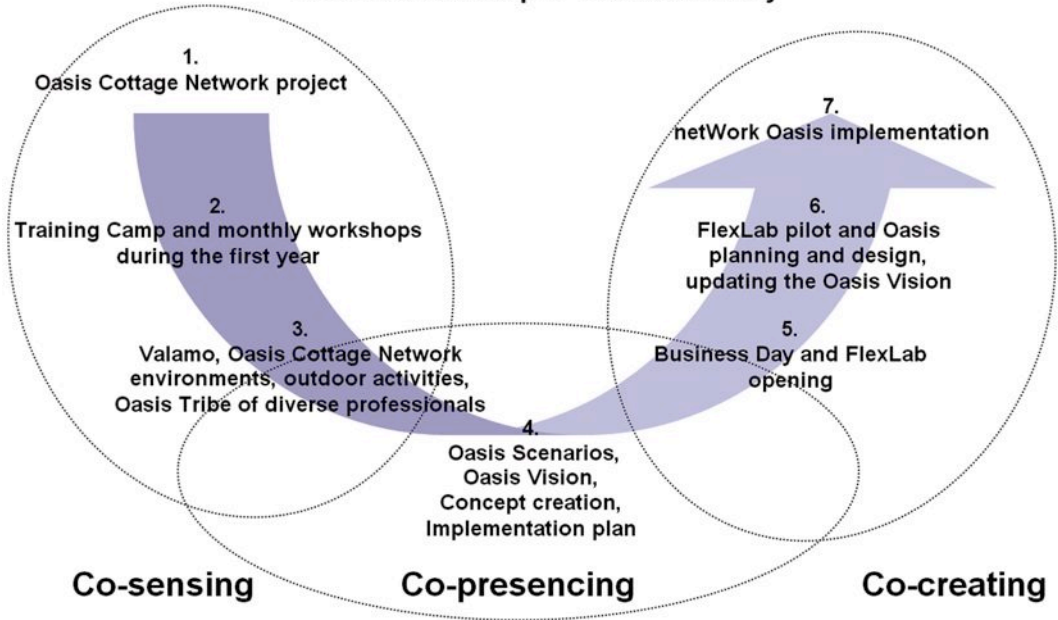
operations within Karostech Ltd — and this idea was never completed as planned. It would still make an inspiring research topic, especially in the context of how this U-theory supports serendipity management paradigm.

Getting back to analyze this after some years of business activities in other areas is exciting. It is truly remarkable that our team found that kind of process just by trial and error — and at the same time Otto Scharmer et al. worked hard to get this process validated. This approach of co-sensing, co-presensing and co-creating worked in Oasis case brilliantly. It makes a lot of sense in all kind of initiatives, where a team has to be built without knowing even what kind of competences the task in hand will require. Sounds really non-engineering, but it works!

4.3. Physical Platforms — Co-working

There are two main elements, which are needed for an ecosystem: physical platform and virtual collaboration platform. These are concrete infrastructure elements essential to the building of an ecosystem. And of course some sort of driver and/or attraction is needed, which starts to generate movement and dynamics, which again attracts more stakeholders until the ecosystem reaches the level where it will be self-sustainable — and at that moment it becomes also antifragile and a powerhouse for serendipity.

Oasis experience shows clearly that a well-designed co-working space is the vital physical element of an innovation ecosystem. In some cases this home base can be a state-of-the-art research laboratory, or some other key structure that attracts people, and works even better as a platform if it will have elements of "sticky knowledge" embedded.

When FlexLab in Joensuu Science Park opened on September 2004 as a pilot and test environment for netWork Oasis, it was one of the very first co-working spaces in the world. Even at the time when the original netWork Oasis opened in December 2006, there were only a handful of co-working spaces globally. But since that the co-working movement has gained momentum, and at the moment there are over 3,500 co-working spaces in the world. Co-working spaces have taken different forms and characteristics: traditional co-working spaces for knowledge workers, hacker spaces for IT/gaming, maker spaces and FabLabs for technology and handcraft-oriented communities, etc.

The challenges of the Post-Normal Era and emergent non-linear developments in fundamental business areas will guarantee that those supportive factors for co-working movement are not going to fade away soon, so the impact of co-working spaces will continue growing. Yet, the forms of co-working spaces, the facilitation methodologies, and the management principles of these spaces will evolve in near future a great deal. At the moment the co-working spaces can be divided roughly into three categories:

1. Community-driven spaces

    ♦ Bottom up, very local
    ♦ Cost savings and shared infra are the driving forces
    ♦ Based normally on few topics of interests, one single community
    ♦ Low diversity → low serendipity potential
    ♦ Mainly on renting desks — business
    ♦ 80–90 % of the co-working spaces are in this category

2. Event-driven spaces

    ♦ Mostly designed for having events
    ♦ The challenge is to attract interesting events
    ♦ "Empty restaurant" image in the daytime (?)
    ♦ No sticky knowledge, the critical mass of day-to-day activities hard to achieve
    ♦ Serendipity is potentially high but harvesting it might be difficult

3. Serendipity-driven spaces
   - Specially designed and managed to harness serendipity
   - Sound balance between locals, visitors and visiting groups (events)
     - will host many diverse communities
     - a well-working virtual collaboration platform supports communities
   - High diversity → high serendipity potential, also easier to harvest
   - Big enough core tribe enables the creation of "sticky knowledge"
   - Global approach, access to global online communities
   - Generates attraction with success stories

An ideal co-working space hosts a variety of communities, so it has to be large enough to accommodate members of many communities. Those small co-working spaces serving only one community seem to easily loose their dynamics and hence the important "pull power" — the attractivity. The best co-working spaces are able to mix, in a balanced way, events and flexible working areas with permanent members, hangout members, and a diversity of visitors. In some cases they may also have a promotional lounge where the products and services of community members are nicely in display. In a high-quality co-working location one can choose the ambience according to the task at hand. For instance, in the original netWork Oasis layout the space is divided in four zones: private–semiprivate–semipublic–public, and people moved during the day according to the concentration vs. socializing needs. Too many (especially small) spaces cannot offer this diversity of ambience and hence they do not differentiate much from noisy cafeterias.

A perfectly designed co-working space could be a powerhouse of harnessing serendipity. So far we are not aware of many spaces that have taken this aspect seriously. Of course netWork Oasis in Joensuu is one, because serendipity related issues were on top of the list when design requirements were listed. So we are encouraged to make a statement that netWork Oasis was the first workspace in the world specially designed for harnessing serendipity.

The other good example of this type of thinking is Seats2Meet originally from Netherlands but currently also expanding abroad. Their infrastructure and interesting operation principles are comprehensively described by **Sebastian Olma** in his book "Serendipity Machine" and the key element "the Mesh" is explained in more detail later in this chapter.[3]

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[3]   http://theserendipitymachine.com/ (downloadable)

4.4. Virtual Collaboration Platforms

A well-working virtual collaboration platform is another vital element for establishing and maintaining a sustainable ecosystem. The platform will help both community management and CRM purposes of the physical space. If properly designed and configured it can also work as an attraction for the potential newcomers. Usually virtual collaboration platform contains of elements like:

1. Access control
2. Billing
3. PVC governance elements
4. Reservation service
5. Membership wall with user profiles and info
6. Visitors wall for hang-around members
7. Social and event information embedded
8. Online access via some type of messenger or other application
9. Web-camera (?)
10. Project management tools (?)

The tailored and specifically designed in house collaboration platforms are rare. In netWork Oasis project we designed and implemented a prize winning solution — GLOW.

The requirement analysis, technical feasibilities, and implementation plan of GLOW were carefully completed and the software production was outsourced to professionals. The process included also technical work to embed five touchscreens on the walls of Oasis and the operational system was introduced to the community. The first user responses were good, but the big problem was that the new management of Joensuu Science Park had no interest in the initiative and refused the further funding in very important stages of the project. So without possibilities to update the system and invest in the hardware, the functionality of the system begun to deteriorate pretty quickly. That was a very unfortunate business decision by the new CEO of JSP, because that kind of system, which was already built and introduced in Oasis, would have been a killer innovation in the rapidly growing co-working market — and that opportunity was there easily to be seen and understood. The example of GLOW development in Joensuu Science Park shows that in order to have sustainable results, a strong commitment of management is elementary in order to update and further develop "in-house" solutions.

For the bigger corporations there are nowadays various commercial products on offer by the main global service providers like Microsoft and SAP. These platforms are being improved continuously, although sometimes it looks like they are always a couple of steps behind the state-of-the-art solutions of social media software providers. Also some smaller companies are entering the market, one strong challenger is Cobolt, but even it has not all the elements, which were already implemented in the first GLOW version 2007 — a bit sad story of a mismanaged business opportunity indeed.

Online communities (like in *Chapter 2*) can provide a lot of diversity, unexpected information flows, and new perspectives. They are an important part of any configuration of the virtual collaboration platform used in co-working environments. At the moment most co-working spaces use mainly social media tools and software available free of charge. The commercial development suitable also to small co-working places and other collaborative environments is step-by-step gaining momentum. In this respect there will be a lot of interesting new developments and services expected to enter the market in the near future.

To give an overview of a practical co-working case, let's explain here the ICT tool challenges in FabLab Saint Petersburg, which was one partner in the "Open-INNO" project. The first step was to list those management tasks, where using ICT tools gives added value. The customer requirements of the FabLab case were listed as following:

Must-have features:

- Organizing events
- Collaboration tools
- Communication platform
- Skill databases
- Reservations (machines/equipment, meeting rooms, etc.)
- Customer database
- Knowledge database (instructions, project database, etc.)

Nice-to-have features:

- Access/time control
- Billing
- Competence matching/team building tools

After an intensive research on the market the team was able to prepare a table of those software services, which would be feasible for FabLab. At the moment of writing this, the decisions of the final configuration are not yet made, but the feasible options are clear. Table 2 below explains the options.

Application area	Tool	Comments
Access control, time control	cobot.me	Requires license
Account management / customer database	Any open source CRM system	
Billing	cobot.me	Requires license
Organizing events	eventbrite, timepad.ru	
Social collaboration, team work	Google Drive, DropBox, Basecamp	
Competence matching, skill databases	—	No tools identified
Community facilitation / communication platform	Google+, Facebook, Twitter	
Online reservations	simplybook.me, Google Calendar, Appointy	
Knowledge database	Mediawiki or any other wiki tool	

Table 2: ICT tools for a co-working spac*e*

4.5. The Mesh

"The Mesh" is a notion well explained in **Sebastian Olma**'s book "Serendipity Machine".[4] It is a term used by Seats2Meet people and has very interesting similarities to Oasis Way of Thinking. Our understanding, after having numerous discussions with Sebastian is that "the mesh" is pretty close to our ecosystem thinking. Here is how Sebastian describes it:

> There can be no doubt that Seats2meet.com's logic of prosumption is one of its great attractions. Gerhard Schulze, Joe Pine's sociologist counterpart and the author of "Erlebnisgesellschaft" has pointed out to the fact that today people expect their work environments to provide them with "meaningful experiences". Such experiences provide feelings of belonging and contribution — not necessarily to an organizational structure but to

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4   http://theserendipitymachine.com/ (downloadable), pages 34–37

> *various open value networks. Seats2meet.com has become a platform for new kinds of value networks that together are co-creating a new economic playing field. At Seats2meet.com, they call it "the mesh": a constellation of networks of professionals forming dynamic collective intelligence, to which everyone contributes meaningfully in his or her own way. The mesh dynamically connects networks, raising their capacity exponentially. This is not your relatively static Facebook or LinkedIn group; people come and go all the time: networks connect, disconnect, and reconnect. Yet the mesh as an ecosphere remains intrinsically stable: it evolves, and this is the condition for its survival.*

This description of the mesh really resonates with the ecosystem thinking already described in this book, some of the terms and notions are not the same, but the underlying message is astonishingly similar. Sebastian continues to explain that the mesh is going to be a necessary condition for future value creation. And he finishes his chapter with an insightful remark:

> *The crucial condition for a functioning mesh is authenticity, making it hard to achieve with corporations. Only if the sense of belonging and contributing is genuine will third space emerge where co-consumers are happy to be co-producers as well.*

And here the idea of actively supporting intrapreneurship inside a corporation is essential (like described already in *Chapter 1*). These intrapreneurs might have enough authenticity to become trusted members of Mesh-communities and hence help their corporations to connect to the dynamics of the ecosystem.

4.6. Oasis Way of Ecosystem Thinking

At the moment it looks like the Oasis Way of Working is taking the third round in evolution. It seems to become much more a methodology of sustainable ecosystem building. The basis is the same: Work–Learn–Play, but this time the circles are going around and evolving in a spiral-like formation — and when taking rounds they are beginning to overlap more and more. It looks like a dynamic spiral, which creates turbulence with a lot of power.

The core idea of creating and illustrating this kind of "ecosystem generator", was so inspiring that we discussed it with a Finnish artist and decided to make it somehow tangible and understandable. After some brainstorming we ended up with Figure 15 below.
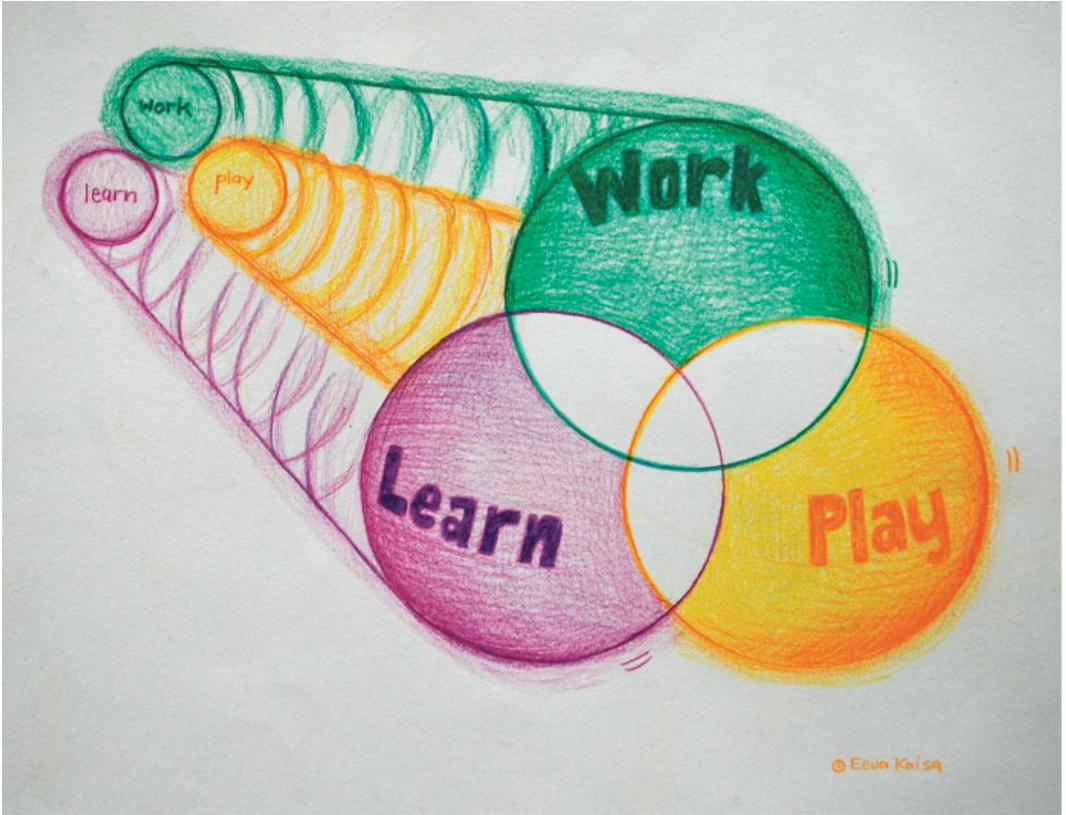
Figure 15: Oasis ecosystem illustrated as a turbulent spiral

The picture shows how "work–learn–play" structure is in the beginning very small and the circles are well-separated from each other. When the action starts and the Oasis Way of Working value circles following the path: Love your potential → Trust yourself → Trust your community/network → Encourage diverse interactions → Respect serendipity → Become connected to your higher potential → Feel the Flow → Learn from nature → Create Co-creation → Celebrate the results → Enjoy your well-being… It takes rounds and the whole system gets momentum, the "work–learn–play" structure starts to grow and circles to overlap.

And like diamonds take a long time and a lot of pressure to be created, this spiral-like "ecosystem generator" accelerates the speed and increases the pressure (in a positive sense) in order to attract talent to join the communities and be part of the ecosystem.

4.7. Summary

Post-Normal Era will lead to a revolutionary transformation in all areas of our lives. With applying "Oasis Way of Working" we are prepared to the changes in the innovation infrastructure and surrounding ecosystems. We surely will see many of the existing institutions becoming obsolete, leaving space for new and more dynamic entities.

We explained some findings of the netWork Oasis project and introduced the tools and other supporting methodologies that were designed to support "Oasis Way of Working". At that time this approach contained some very revolutionary elements, but now many characteristics introduced 2005–6 are gaining momentum in an increasing speed.

The entire planning process of netWork Oasis followed the model described in the U-theory by Otto Scharmer et al. Our experience is that this model is brilliant when the goal is to create something thoroughly new, so we recommend it to be introduced when the objective is to create something disruptive.

The toolkit for sustainable community building has two essential elements: physical and virtual collaboration platforms. When these platforms are designed to act in concert, then the prerequisites for a sustainable ecosystem building are fulfilled. It is evident that the theories and practices in the process of ecosystem building will evolve in the near future. We are confident that essential characteristics of the breeding environment thinking will start to gain momentum and we will see some inspiring openings in this respect.

CHAPTER 5

Respect Serendipity

Discovery consists of seeing what everybody has seen
and thinking what nobody has thought.

Albert Szent Györgyi

5.1. Why Serendipity?

Serendipity is gaining momentum now when we are approaching the Post-Normal Era. There is clear evidence that it will become one of the hot topics in innovation discussions in the near future. A clear indication of this development is an announcement by Google's CEO **Eric Schmidt** at TechCrunch event in San Francisco in September 2010, where he stated that their company is developing a search engine of the next generation called "Serendipity Engine"[1]. And Google will probably invest hundreds of millions of dollars in the process of getting it into the market. They are not alone in this field, we are convinced that in many labs around the world there are ambitious development projects focusing in finding valuable and unexpected products and services, which have the harnessing serendipity element embedded.

It is a big surprise to discover that there is so far not much serendipity-related research going on. This opens an opportunity to the players who will dedicate their activities to understanding the mysteries of the phenomenon. The huge potential of serendipity in improving innovation processes, organizational structures, ecosystem performance, and even personal well-being will be soon noticed. That requires though a clear mind shift and some structural transformation in the society, and fortunately the Post-Normal Era will force institutions either to radically change themselves and start applying new approaches like serendipity management — or to fade away.

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[1] http://techcrunch.com/2010/09/28/eric-schmidt-future-of-search/

5.2. Definitions and Theoretical Background

Serendipity was originally coined by a British nobleman **Horace Walpole**, who came across to an Old Persian fairy tale "The Travels and Adventures of Three Princes of Serendip" (Serendip is an ancient name of former Ceylon, nowadays Sri Lanka). He was fascinated of the story and princes' ability to discover things. The often-referred piece of the fable where the princes identify two stolen camels by being alert and aware is only a part of the story. The fairy tale is much more than that; it's a lovely story following the classical hero's journey model. Three princes get a challenging task from their father King Jafer to find the secret formula poem of magic liquid, which could kill the dragons on the shores of Serendip. They travel all the way to Persia and find some advice from an old sage they serendipitously meet. Following that hint they start to follow the traces of an old seer called Aphoenicius, who *"…has hundred disguises and is at times invisible staying in one place never more than one night. He has strange, shining eyes and he carries the poem in the silver cylinder and guards it always."*

It surely is an insightful story, holds many other great moments beyond the camel episode, even when serendipitious events and encounters are concerned — and yes, it has a happy ending![2]

Walpole started to use the word "serendipity" in his correspondence with his fellow noblemen and named serendipity as the "most expressive word". While Walpole's correspondence and the copies of the original fairy tale are very difficult to be studied (a copy of original fairy tale is only in British Museum), there are many opinions about the correct definition of the word. Our understanding is that serendipity can be best understood by using Horace Walpole's original definition, which was further elaborated by **Robert K. Merton** in 1950s: *"Serendipity is a quality of mind, which through awareness, sagacity, and good fortune allows one to frequently discover something good while looking for something else"*[3].

So the common misunderstanding that serendipity is just a "lucky accident" is a generalization of the worst kind. It's a pity that this expressive word is brutally simplified in a way that it is not any more describing the phenomenon. In fact, in Serendipitor's Weblog there is an interesting article "Luck — overrated in terms

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[2]   The best reference to the fairy tale is a book by Richard Eyre: "Spiritual Serendipity" (1997) Simon & Schuster, pages 57–92
[3]   Robert K. Merton & Elinor Barber: "The Travels and Adventures of Serendipity" (2004), Princeton University Press, New Jersey

of serendipity", where this issue is discussed from various perspectives. Here is the conclusive remark of the article:[4]

> *"If an unexpected event or encounter will turn out to be fruitful and create some value, will depend largely on one's ability to discover and be insightful. Therefore, "getting lucky" is in most cases a matter of preparedness and not a result of pure luck."*
>
> Serendipitor

Serendipity is commonly understood also to define the whole process of a serendipitous finding and while the research on serendipity is at the moment gaining momentum, one of the leading serendipity research projects in U.K., "SerenA"[5] has identified the process of serendipity to consists of three elements:

1. Unexpected event or encounter
2. Insight
3. Value creation

This so-called **Makri & Blandford** model has been criticized because it does not take into consideration the element of preparedness. Our experience has shown that a prepared mind (or community) is an essential part of the value creation every time when serendipity is harvested.

Our company, Karostech Ltd, has been one of the forerunners in studying serendipity and the author of this book, Ilkka Kakko, has also many years' personal research experience in areas elementary to serendipity. It is truly astonishing to notice how such an important element of innovation process has been widely neglected in the academic field — and also in the business and innovation context.

There are not many sophisticated theoretical models explaining the phenomenon. We feel that so far a Canadian research team **Rubin, Burkell & Quan-Haase** designs the best theoretical model. Their study and the model of serendipity provide insight into the facets involved in everyday chance encounters. Their work, while still in its early stages, will give some suggestions for the facilitation of serendipity in online environments. The model is a comprehensive one and illustrated in Figure 16.[6] The main findings of the research team are also explained in *Italics* after the picture (shortened from the original text).

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4   http://www.respectserendipity.com/?p=572
5   http://www.serena.ac.uk/papers/
6   http://www.informationr.net/ir/16-3/paper488.html
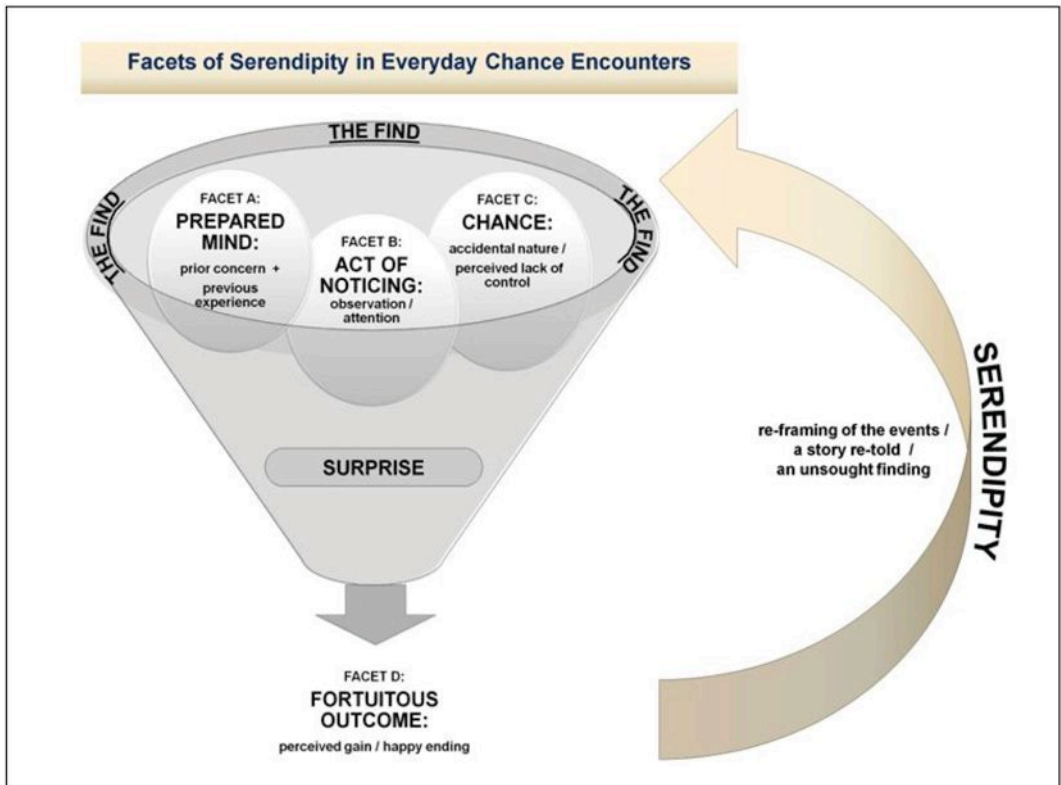
Figure 16: Rubin, Burkell & Quan-Haase model

The Central element to this model is the concept of the find: the essence of what is encountered by chance. The four facets are as following:

> *Facet A: Prepared Mind consists of two linked components: a prior concern and previous experience. A prior concern is a pre-existing problem and previous experience refers to a personal accumulated knowledge or expertise. A prior concern is also important in understanding the importance of the find. In addition a prior concern may influence noticing, making it more likely that some types of finds (those related to prior concerns) will be noticed.*
>
> *Facet B: Act of Noticing. The person not only has to have a prepared mind, but also needs to be able to notice the find and shift the attention from a primary activity to a clue in the environment, or a trigger.*
>
> *Facet C: Chance. A necessary pre-condition of serendipity is the presence of chance: an accidental or unplanned encounter with the find. The chance component captures the accidental nature of the encounter and underlines the perceived lack of control.*

> ***Facet D:*** *The Fortuitous Outcome. A chance encounter provides unexpected benefits linked to the find.*
>
> *The conceptualization of the find is key to understanding serendipity because it functions as a funnel in bringing together all the facets of the serendipitous encounter: a) the find becomes relevant to a person with a prepared mind; b) it is only discovered by a person who has an ability to notice it; c) the find is what people encounter accidentally; d) it is what leads to a fortuitous outcome, and e) it is the essence of the re-telling of the story. Each of the other aspects contributes to the experience of serendipity, and they are inter-related in ways that are signaled in the accounts. Equally important to understanding serendipity is the fortuitous outcome, because it is only at the end of the story, when the fortuitous outcome has occurred, that a serendipitous encounter can be distinguished from other chance encounters of no great meaning.*

Our understanding is that a lot of new openings in the global research of serendipity can be expected in near future. Surely a number of inspiring books like **Gary Klein**'s "Seeing What Others Don't" (already referred in *Chapter 1*) will be published and new research results will try to revolutionize, for instance, search engine algorithms and mobile technologies. Given the delicate nature of serendipity it's challenging to predict how many of them have the real impact on our everyday life. That will be seen.

The almost untouched research field is to study the impact of physical environments in serendipitous findings. That is for some reason not yet explored, although in practical work of space design serendipity issues are nowadays one of the discussion topics. Within our company we have taken an active role in this field and we have been able to introduce new features when contributing in our customer projects. Of course we also follow the interesting developments in the areas like new office designs, artifacts and boundary objects, co-working movement in all forms including hacker and maker spaces, and the rapid evolution of collaborative networked business models.

The other highly relevant area is to study, how the increased focus on harnessing serendipity will change the existing business models and management practices. We will discuss that in more detail when explaining our serendipity management approach, but as an introduction let's have a look at one interesting paper in European Management Journal by **Miguel Pina e Cunha, Stewart R. Glegg, and Sandro Mendoca**[7]. They conducted a comprehensive literature research on the origins of serendipity, its relation to organizational and management theories, obstacles

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[7]   Miguel Pina e Cunha, Stewart R. Glegg, Sandro Mendoca: "On Serendipity and Organizing", European Management Journal (2010) 28, pages 319–330

to harness it and recommendations for further research. The authors have interestingly distinguished serendipity from other organizational concepts, with which it has some resonance, namely bricolage, creativity, and improvisation.

Note that in this table Meyers' description of serendipity as "happy accident" is a misleading one and referring to the widely-accepted academic opinion, also an incorrect one. The authors see serendipity, following the theories of **De Rond,** more as a capability than a chance event and this resonates well with our original definition, where *"Serendipity is a quality of mind, which through awareness, sagacity, and good fortune allows one to frequently discover something good while looking for something else".*

Table 1	The specificity of serendipity.			
	Bricolage	Creativity	Improvisation	Serendipity
Materiality	Making do with what is available	Representation of existing material in new ways	Familiar instruments, new chord changes	Surprise; the shock of the new — materiality intrudes itself in new and unexpected ways
Application	New uses for old materials	Design is paramount	Collective co-creation; a conversation between the players	Suggested through analogy and metaphor
Form of knowledge	Deliberative, applied	Systematic: "intentional efforts to produce variations relative to a particular domain" (Ford, 1996, p. 1117)	The temporal convergence and co-existence of planning and execution (Moorman and Miner, 1998)	Bisociation — The mixture of cues from two contexts or categories of objects that are normally considered separate. It is the functional basis for metaphoric thinking
Example	Baker and Nelson's (2005) study of entrepreneurship Garud and Karnoe (2003) illustrate how a consistent bricolage approach led to a desired goal	Many commercial products are the result of creative inventions, with the process of invention often being industrialized in the context of bureaucratic structures (Meyer-Thurow, 1982)	*Kind of Blue*, Miles Davis Quintet (1959) Radical simplicity empowered and freed Davis' players to improvise and create without requiring them to put their technical mastery on show. In business terms, as Rob Austin (Lagace, 2009) says: get great materials, simplify the task down to its essential elements, put your smartest people on it, and force them to listen-to each other, to the interaction between the company and its customers, and to the market With regard to improvisation, Cunha et al. (2003) showed how IT experts improvised to solve pressing problems with no desire whatsoever for surprises — quite the contrary	Meyers (2007) described serendipitous discoveries as "happy accidents"

Table 3: The specificity of serendipity[8]

The interesting outcome of the research is introducing the role of bisociation in serendipitous insights. The authors define bisociation as the functional basis for metaphorical thinking[9]. Their understanding of the process is based on the fact that when a person combines previously unrelated matrices of skills or information, acting beyond routine thinking and on one single plane, serendipitous learning may occur as a possible outcome, leading to the discovery of a solution to a different problem than that initially posed. So this kind of context defines bisociation. Bisociation entails an exercise of intuition, the intuitive recognition of possibilities to be discovered when ideas are combined in an original way. Bisociation occurs when someone combines previously unrelated matrices of skills or information.

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8   Ibid., page 322.
9   Koestler, A. (1964) "The Act of Creation". Arkana, London.

They also argue that after a period of mental incubation, matrices are related and a new way of representing a problem emerges; thus, a bisociative process happens when unsuspected connections or hidden analogies are revealed, enabling the momentary burst of creativity. These analogies often result from serendipitous links between information sources, whether conjoined factually or by analogy. And this is very closely related to the "foreground" vs. "background" problem solving challenges researched by **Erdelez and Yadamsuren**[10]. This again refers to the emergent insight be myself that people can be categorized on the level of serendipity orientation by analyzing, how many clicks one may go away from the original document when searching for the information for the foreground problem, which accidentally will lead to looking solutions to the background problem. This will be explained in more detail later on in this chapter.

For the organizational and management perspectives **Pina e Cunha, Clegg, and Mendoza** give an understandable and straightforward advice in the conclusive part of the article:

For managers, consideration of serendipity may be valuable. Regarding the process, managers may need to accept that learning and discovery may be programmed but also, in some cases, non-programmed. Therefore creating organizational openness to the non-programmed, for example by instilling the psychological safety for people to speak about "weird" findings, may be a first need. To stimulate the imagination of serendipitists, it may be advantageous to invite people to look beyond what is usual and familiar. Putting people at the periphery of their normal capabilities could be one way of operationalizing this. Challenging tradition by involving people with the "wrong" background in some projects may be another possibility. In terms of context, managers may facilitate strange connections, mix networks that normally do not blend and assume that organizing is as much about freeing than it is about controlling.

An attractive vision for the next serendipity challenge might be the orchestration of the ecosystem so that the dynamics are generated and a constant flow of serendipitous findings supported. We would like to open the discussion in this respect and launch hereby the great challenge for all developers interested in innovation management and serendipity's role in the evolution of new models. The overall goal is to design and implement a certain kind of breeding environment, an **ecosystem with enough dynamics and unexpectedness to pull talent in and generate unorthodox ideas in order to keep the serendipity potential harnessed**.

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[10]   Borchuluun Yadamsuren, Sanda Erdelez: "Incidental exposure to online news", 2010, ASIST proceedings, http://www.asis.org/asist2010/proceedings/proceedings/ASIST_AM10/submissions/237_Final_Submission.pdf

5.3. Finding Insight — The Key Element

Our experience shows that the key element in serendipity cases is the ability to gain insight. This is also validated by the main theoretical models, it's in the center of Makri & Blandford model. The same element is also essential in Rubin, Burkell & Quan-Haase model, they call it "act of noticing". Helping individuals and therefore companies to gain insight will be the most inspiring incentive from the innovation management perspective. When we can show that certain serendipitous actions clearly increase the amount of useful insights, then we are able to offer something valuable also to business ecosystems. And that's exactly where serendipity management thinking will help, we'll discuss it soon, but first to the anatomy of finding insight.

> *"Intuition is the use of patterns you have already learned, whereas insight is the discovery of new patterns."*
>
> Gary Klein

The insight in the famous and most used examples of serendipity is many times more difficult to analyze afterwards. The reconstruction of the situation and the state of the mind of a person involved is a challenge, and therefore some of the "legacy serendipity cases" has to be taken with caution. We are well aware that the history of science has hundreds of great stories about serendipitous findings and the list is impressive: Archimedes, Columbus, Newton, the discoveries of steam engine, penicillin, X-rays, Teflon, microwave oven etc.[11]. Yet we have been analyzing and trying to understand many of them and to be honest some cases have not that much to do with serendipity in a way we understand it. But "the great story many times wins over a dull but a more valid one".

Archimedes case anyhow is a great example of a real serendipity. Not only he had "a quality of mind which frequently was able to find…", which does not apply to many of the popular serendipity cases, but also the famous tub experience is brilliant to describe the serendipity process comprehensively. Not the short story though, that one, where he went to the tub, spilt a lot of water to the floor, jumped out of the tub, and started to run naked along the streets of Syracuse shouting "Eureka, Eureka!" Not that! The longer version of the story explains the discovery fundamentally:

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[11]   Royston M. Roberts: "Serendipity-Accidental Discoveries in Science" (1989), John Wiley&Sons Inc., New York

Hiero, the king of Syracuse and a close friend and perhaps even a relative of Archimedes, had commissioned a goldsmith to make a crown for him from pure gold. Upon receiving the finished crown, the king had doubts about whether the goldsmith had put all gold into it. Couldn't the goldsmith have substituted a less valuable metal, silver or copper, for some of the gold and kept the gold that was not used?

It was known how to mix gold with silver or copper. These mixtures, or alloys, retain the rich color of gold even when significant amounts of the other metal components are incorporated. Pure gold is called 24-carat gold. The alloy 14-carat gold is 58% gold and 42% other metals; it's commonly used for jewelry and looks almost exactly like pure gold.

King Hiero called his friend Archimedes and presented the famous mathematician with the job of finding out whether the crown was indeed pure gold and contained all the precious metal the king had given to the goldsmith. Chemical analysis was not nearly so far advanced in the third century B.C. as was mathematics, and Archimedes was, after all, a very clever mathematician and engineer.

Archimedes had previously worked out mathematical formulas for the volumes of regular solids such as spheres and cylinders. He realized that if he could determine the volume of Hiero's crown, he would be able to tell whether the crown was made of pure gold or of a mixture of gold with other metals.

When he saw the water run over the top of the tub as he stepped into the water, he realized that the volume of the overflow water was exactly equal to the bulk of the part of his body that had placed the water. Now he saw a way to calculate the volume of any irregular object, whether it was his foot or a crown. So if he puts the crown into a container filled with water, he could measure the volume of the water that overflowed. This would be equal to the volume of the crown.

He did the experiment and was able to prove that a goldsmith had cheated; the volume of the crown was considerably greater it should have been for a crown made of pure gold. Archimedes created value, founded a new method — and the king got back the gold which was left over, and the goldsmith was executed.

The more recent serendipitous finding is for instance SMS technology invented by Nokia engineers during one weekend, an easy technical solution originally designed to internal emergency use inside Nokia corporation, but then it was very quickly revolutionary "misused" by people when they noticed the unexpected potential of this new messaging technology. "Post-It" notes were first thought to be a failure as glue; Viagra, which was intended to be a medicine for cardiovascular diseases, was discovered to provide a great help for impotence.

The accidental founding of Ice Hotel / Ice Bar concepts is an extraordinary story as well[12]. It is a great example of both effectual entrepreneurship and serendipity. **Yngve Bergqvist** is from Northern Sweden, he was getting bored with his job in mining industry, so he quitted and started as an entrepreneur in tourist business drafting visitors down the river etc. Yet the wintertime was quiet and he wanted some action also during winter months, and ended up organizing an ice sculpture competition in November, but then an unexpected warm weather (+7°C!) hit Northern Sweden. All the fancy sculptures began to melt and were destroyed but some bigger ice cubes taken as raw material from nearby river were more or less OK and with the help of all the professionals, who were disappointed but ready to act, they decided to construct ice igloos. When the work was finished they decided to test the new structures and to overnight in them. This was a decisive factor! Overnighting in those igloos was such an experience to participants; all the magic light and exotic skyline that impressed everybody was a reason for Yngve to decide cosntructing a complete ice hotel for the following winter. Brilliant business story was born by unexpected conditions and Yngve's insight of taking action and forgetting his disappointment.

Insight is the key element of serendipity. Following serendipity's original definition, serendipity is something unexpected or odd — event, results, encounter, or situation/context — that triggers insight. And this insight will eventually lead to value creation for the individual, community, or company. In the global business world great insights are rare, and therefore so valuable, the competitive edge is often based on only one insight.

Gary Klein's ideas (introduced already in *Chapter 1*)[13] about how we gain insight are helping us to find more understanding about serendipity as well. Many of his examples are pure serendipity cases, although he very seldom uses serendipity word as such. Yet the ways that insights are created in these cases are brilliantly described and inspire me to apply them also in serendipity research.

According to Gary Klein, insight will be triggered by (see Figure 17):

- Connections
- Coincidence
- Curiosity
- Contradiction
- Creative Desperation

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[12] http://www.effectuation.org/article/ice-man-cometh-story-icehotel
[13] Gary Klein (2013): "Seeing What Others Don't — The Remarkable Ways We Gain Insights", Public Affairs, New York
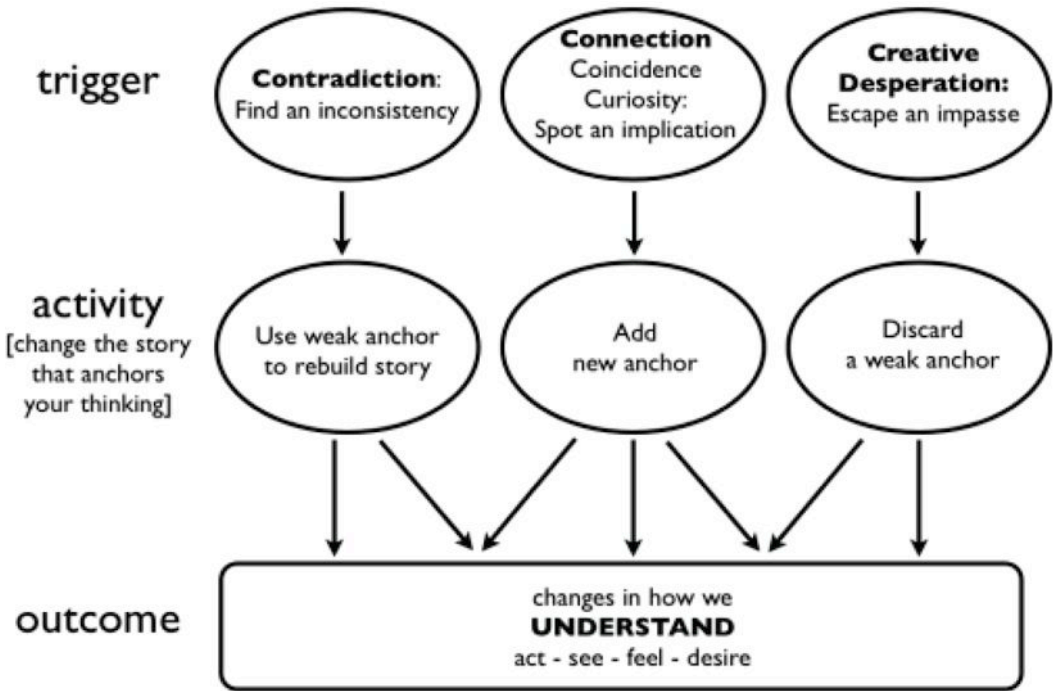
Gary Klein, *Seeing What Others Don't* (2013)

Figure 17: The scheme how serendipitous insight might emerge

Most of these patterns are familiar to serendipity; creative desperation might be the only one pretty far away from classified serendipitous findings. Unexpected connections of ideas and people are in the core of the theme; most serendipity examples are related to this phenomenon. Coincidences and curiosity are also often present when something serendipitous happens. For me the notion of contradiction in this context was kind of insight itself. So instead of having an open mind, it sometimes pays off to have a suspicious mind — also when serendipity is involved!

For the harnessing serendipity purposes this new approach will certainly be a great alternative. Putting people in front of unexpected contradictions will sparkle (hopefully) their creativity and lead to insightful results. The role of "Devil's Advocate" might be a real catalyst in many communities and companies, as long as it's understood the right way. And again, the important drive to support diversity — and yet maybe add contradictory opinions — could stimulate the serendipity process in various ways. We have noticed that often innovation communities are way too homogenous without any contradictions; the ability to tolerate uncertainty and different thinking is the key to fruitful discussions and solutions.

5.4. Coincidensity — Diversity and Social Density

While researching serendipity I discover a lot of buzz around the need for unexpected "happy" encounters and events. Harnessing serendipity is too often understood to be a synonym to the desire of being exposed to unexpected moments. This is only a part of the whole story. Unexpectedness is one of the elements of serendipity, as we have seen, yet maybe the easiest to facilitate. The more difficult parts are finding insight through preparedness and building value through hard work.

Density and diversity are extremely important in generating unexpected encounters; I just recently heard about a term "coincidensity" introduced originally by **Matt Biddulph** formerly of Dopplr, **Stowe Boyd** further highlights the term in various occasions. Density and diversity are the characteristics of dynamic metropolitan areas — and often also fundamental elements in well-working virtual communities. But coincidensity is not a synonym to serendipity! The desire for unexpectedness is not natural in human life, it's a fairly new phenomenon introduced by people who want to engineer serendipity — and by doing so they are in fact only engineering coincidensity.

The lure of metropolitan areas is kept alive because of the business purposes; the connectivity to the vital business activities and networks has been easily organized when located "on the spot". Yet modern technologies enable us to stay connected virtually and many people advocate for the importance of global online communities — then there is no matter where you live. Anyhow, the new lure for metropolises is emerging, when people start to categorize serendipity as an urban phenomenon. It's a fact that having an open mind and living in a metropolis helps you encounter unexpected events, people, and ideas.

But does that overwhelming unexpectedness increase your ability to harness serendipity? Is the everlasting drive to new connections, numerous events etc. putting your Dunbar's number to the limits? Are your unexpectedly found new weak ties really helping you to get insight and create value to yourself and surrounding community? Good questions.

It is essential to understand that coincidensity is not serendipity. Sad enough, when people are so excited about "serendipity" they in fact are excited in increasing the coincidensity. One good example was Wall Street Journal blog from March 2013, which boldly stated, "Serendipity is The Next Synergy"[14]. The message was clear; the importance of unexpected encounters was the topic to be discussed in the context of workspace development at SXSW event attended by more than 30,000 techies, designers, marketers, and journalists from all over U.S. But again, they were talking about coincidensity…

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14 http://blogs.wsj.com/atwork/2013/03/13/sxsw-austin-workplace-trends-serendipity-is-the-new-synergy/

5.5. Serendipity Management

I ended up myself finding serendipity, as a notion, during the netWork Oasis project in Joensuu. Pretty early in the project (2003) one of the leading planning metaphors was formulated: "Oasis aims in increasing the random encounters of the diversity of people!" So, to increase diversity and density in this new co-working space — to support "coincidensity" as we now know better — was the main planning principle. However, it took still some time before we first time heard the new notion "serendipity" in one internal workshop on Summer 2004 and then we started to name the already well-known phenomenon with the correct notion.

The first steps towards developing a new approach were taken, when we started to plan the Kick-Off and the assembly of the project team. The main issue was, what kind of competences the project needs in order to design and implement a new type of collaborative working environment. (CWE as it was at that time named.) And even more challenging was to find out where this kind of competence might be lurking and how to get it also to become attracted to the initial idea. (Pull-principle!). So, as a solution we created a Training Camp approach, a kind of open invitation to be delivered through the social networks of already established Oasis core tribe members. The Training Camp was a success with a diversity of talent attending motivated and inspired, and some of the key planning team members were found even three "handshakes" away from the core tribe. The whole team-building process and use of CNOs is illustrated in Figure 18.

The experience was so successful and motivating that we decided to further elaborate the methodologies, which led us to think about serendipity management as a new management paradigm. We noticed that the traditional project management procedures were widely used in R&D projects and our experience both from public sector and private industries indicated that especially the idea and concept generation phases would need new approaches. The challenges are mostly in the areas of team building, motivation/engagement and resource allocation.

Often the objectives of the project have to be defined well before the project has even started — this applies especially for publicly funded projects where the time lag between writing a proposal and getting an approval and funding is often months, even a year. netWork Oasis project was an eye-opener for us: we found new and much more agile ways to organize the development work and streamlined our serendipity management thinking by piloting the tools and methodologies during the project.

After the successful implementation of Training Camp we started to have discussions with experts on the innovation field and got a mixed response. The skeptics
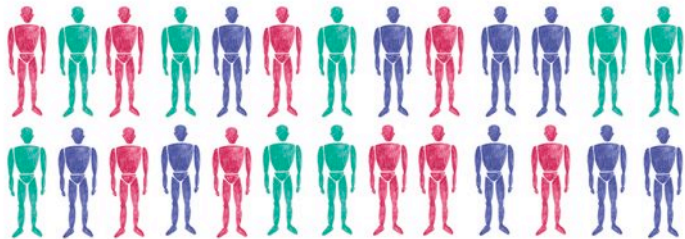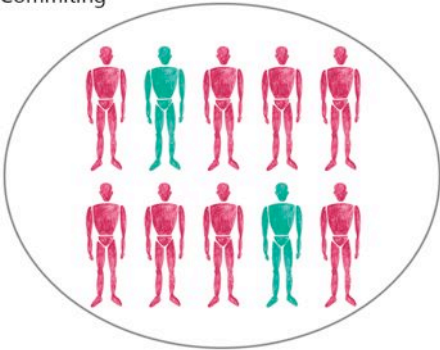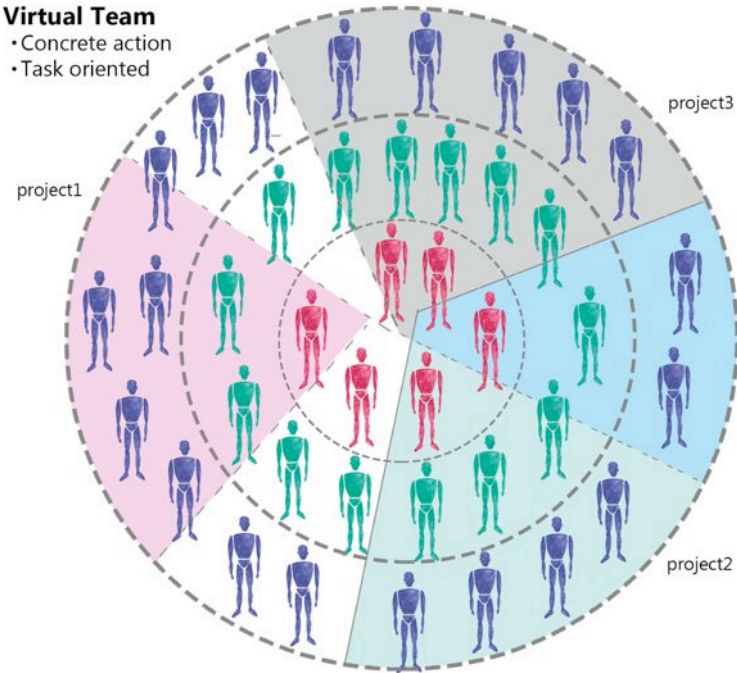
Figure 18: Team building principles for netWork Oasis project and the serendipity
management approach in the planning process during 2003–2006

were mostly engineers and industrial people who were used to work according to clear project plans. So nine years ago the message was mainly misunderstood, but step-by-step the Post-Normal Era has sneaked into their offices as well — and at the moment the response is mainly positive.

The characteristics of serendipity thinking and especially the differences between project management and serendipity management are illustrated in Table 4. One can easily discover that serendipity management principles combine very well with the Post-Normal Era philosophy. Serendipity management has proved to be much more productive than traditional project management approach, when the objective is to create novel and fresh ideas and concepts and get them implemented successfully.

Characteristic	Project Management	Serendipity Management
Approach	Project	Journey, exploration
Type of innovation	Directional	Intersectional, sustainable
Type of human resources	Homo faber	Homo ludens, Homo aestheticus-informaticus, Homo creativus
Organisation	Fixed in the beginning	Flexible during the process
Focus	Effective process	Best possible result in the end
Structure	Closed innovation	Open innovation
Mission	Goal decided in the beginning	Vision decided in the beginning
Competence search	While defining the project	Training camp approach
Resources, time schedule	Fixed	Flexible
Management style	Command and control	Connectivity and collaboration

Table 4: Serendipity Management vs. Project Management[15]

When the team-building principles are added then fluid operations can be guaranteed without any delays. The dynamic solutions could be tailored using 3GSP concept with added elements like Demola because the basic structure is modular.

15   Kakko & Inkinen: "Homo Creativus: Creativity and Serendipity Management in Third Generation Science and Technology Parks", Science and Public Policy, 36(7), August 2009, pages 537–548, Oxford University Press

When applying the 3GSP concept, the process of harnessing serendipity begins already when deciding the design principles of the physical premises. The Oasis type of co-working space is the essential element and positioned in the core of the infrastructure.

Sometimes the co-working space could be also located in downtown area away from university and STP campus. The reason for this is that the density and diversity are bigger in downtown areas and this increases the probability of the valuable unexpected encounters. Such a place works also as a great satellite for the campus people having business affairs in downtown. At the moment, for instance, Moscow government is applying a distributed network of co-working spaces exactly according to this principle.

The physical spaces, which are often geographically dispersed, are supported by a virtual collaboration platform. The configuration of this varies, often it consists of social media tools like LinkedIn, Facebook, Twitter, Pinterest, SlideShare etc. and if an organization have one of the enterprise social media platforms in disposal like Cisco WebEx Social, IBM Connections, Jive Social Business Platform, Microsoft
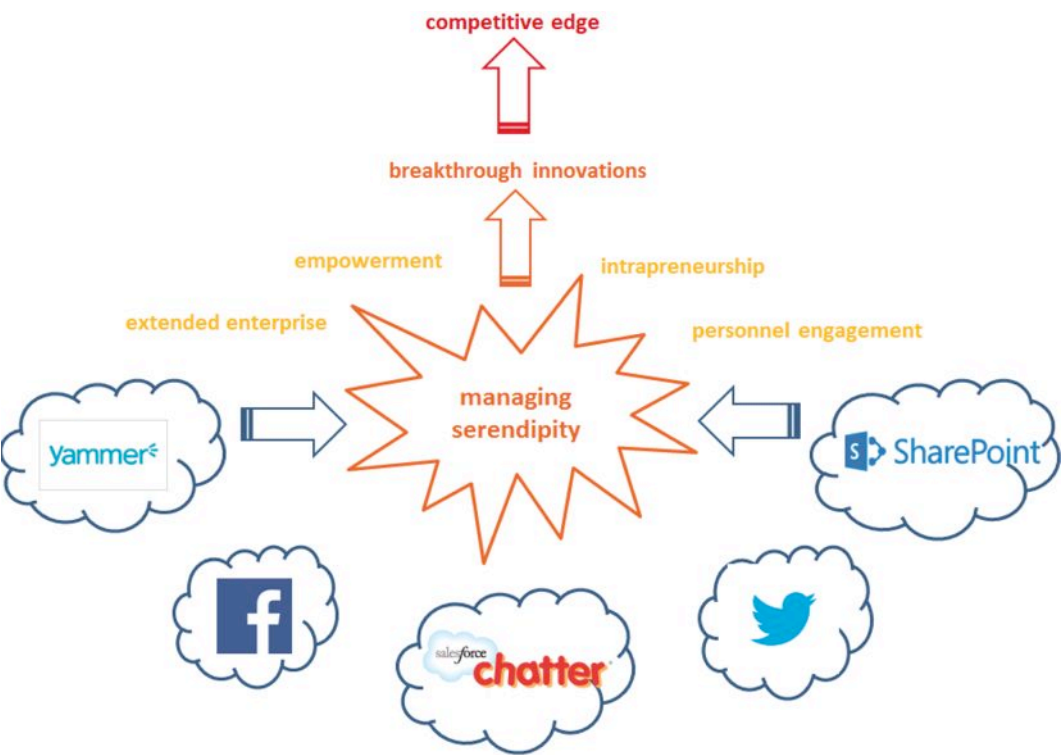

Figure 19: Harnessing serendipity in corporate environment © Karostech Ltd

SharePoint and Yammer, Salesforce Chatter, or SAP Jam, it might be beneficial to synchronize that to the system as well. Figure 19 illustrates the benefits gained by such an approach.

Well-working virtual collaborative platform can act as a real effective tool not only for harnessing serendipity, but also in supporting extended enterprise thinking and encouraging intrapreneurship.

Open innovation principles are widely used and unexpected encounters and events are facilitated but also the self-dynamics of the ecosystem provides coincidensity. We use in Karostech's customer cases also some specifically designed and proven methodologies like "Training Camp" events and "Walk and Talk" tandem interaction and "Wilderness" treats. These are used in order to build teams with unexpected combinations of competencies and to encourage them to find and elaborate also revolutionary ideas. This active facilitation of communities and unconventional team building process has proved to produce great results and is one of the most successful matters in the whole serendipity management concept.

This leads us to the definition, which we use in an organizational context: *"Serendipity management is a comprehensive set of tools and facilitation methodologies, which by the help of tailored workspace design — both physical and virtual and through the facilitation of unexpected encounters and collective insight, will support the emergence of new combinations of competences and the generation of breakthrough ideas."*

Serendipity management definitely is an essential management paradigm and it has to be further elaborated. The acknowledged management experts like Deloitte Edge's **Hagel** and **Seely Brown**, top researchers like **Pina e Cunha** and **Clegg** and respected serendipity pioneer like **Olma** have all emphasized the importance of the ability to harness serendipity. So several new initiatives on physical and virtual platform development will emerge, some traditional business models will become obsolete, and companies understanding the true possibilities of serendipity in the Post-Normal Era will thrive in the future.

5.6. Harnessing Serendipity on Personal Level

Maximize serendipity around you.

Nassim Nicholas Taleb

This last chapter can be seen as a conclusion of the whole book. Being able to harness serendipity on personal level is essential for anybody's future success. With

that quality it is easier to enjoy the integrated Work–Learn–Play activities. And here we want to remind our readers once again about the original definition of serendipity:

> *"Serendipity is **a quality of mind**, which through awareness, sagacity, and good fortune allows **one to frequently discover** something good while looking for something else."*

It is surprising to notice that although serendipity is defined as *"a quality of mind",* there is not a lot of research, practical advice, or supporting methodologies in this respect around. What kind of qualities this kind of mind should have? And how *"… it allows one to frequently discover…"*?

I have been fortunate to facilitate last year quite a few "Serendipity management" or "Harnessing serendipity" workshops with a diversity of audiences in several countries. It surely has been a wonderful experience. Tailored exercises, teamwork and personal discussions have given me some insight of this topic, and here I want to share some of the results. Please note that these outcomes are based only on the experiences of the events — and of course my reflective thinking of them.

According to my experience, harnessing serendipity on personal level will depend at least on three things:

- Personal qualities
- Attitude
- Your trusted friends and communities

My opening question in facilitated serendipity events is always: "Do you like surprises?", and more than 70 % of the time somebody asks: "Good or bad?" My response to that is: "Never mind good or bad, just surprises in general" — and then I get the audience divided to those who like them and those who don't. The interesting result here is, how much the audiences may differ in this respect. And for me this has become also the key question when judging the serendipity potential in any context.

My understanding is that those people who like surprises are much more prone to serendipitous actions. They have the capacity to gain from unexpected events and encounters and their positive attitude towards surprises helps them to find insight in situations where others don't. This is a matter which I have started to call the "**effectual entrepreneur's attitude**".

The vital question here is, how this attitude can be found or strengthened. Is it possible to learn and adapt? Since I am not an expert in social psychology, I have no definite answers. However, I believe in personal development, lifelong learning

and the power of positive attitude, so probably there is a good chance that everyone is able to cultivate the qualities and the attitude in this respect.

The other great indicator of serendipity potential is the "how many clicks away" test. My experiences in this theory are in infancy, but as a categorizing factor it's such an inspiring idea, that it has to be further elaborated. What do I mean by that?

It simply means a personal behavior when searching or browsing something from Internet. We all know, when we look for something, we discover a link, which could lead us closer to the solution, even if the original text/document is interesting enough. Now we are one click away — here we find another link and click — now we are two clicks away — and again — maybe even again… I am sure that from this kind of "how many clicks away you still feel comfortable" and "do you ever get back to the original document/page" — one could find out a personal behavior pattern.

Of course that is context dependent, how much time you have got, how tight are the searching criteria etc. But surely this could be an inspiring research topic — and I am sure that for instance Google and other frontline corporations do research on that. The question to be asked: Are you a "no-clicker", "1-clicker", "2-clicker" etc. And of course what level of clicks would be ideal for you in order to harness serendipity meaningfully in long term. The dilemma here: too many clicks — time wasted and concentration lost; not enough clicks — opportunities missed, lack of relevant knowledge.

For myself this "clicking away" has been a time consumer, I might be categorized as a "3-clicker". Yet I have clearly understood the dilemma between foreground vs. background problems (see Erdelez). Trying to find a solution to a foreground problem has many times led me to find relevant information to my background problem. And just recently I found a great technical solution, which already in one-month time has proved to brilliantly be helping me. "Pocket" — free software[16] helps you to quickly save and tag links, when you are browsing away from the original document. It helps a lot because those saved pages are easily found later on from your computer (even offline) just using relevant tags. So with Pocket I have given myself even more freedom to serendipitous journeys away from the original document; therefore, Pocket is highly recommended.

As the final section of the book I want to share the selected advice how to harness serendipity on personal level. These "rules of thumb" are based on my personal experience and discussions with a diversity of people in serendipity-related

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[16]   https://getpocket.com/login

events. Following the "golden rules" will certainly help you to better harvest serendipity around you, it may take time to experience the results, but believe me, it's worth the effort.

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8 Golden Rules for Enjoying Serendipity Every Day:

- **Follow your passion**

   "Passion before profit"

- **Change your daily routines every now and then**

   "Who can I surprise today"

- **Attend events, conferences, and barcamps etc., which are outside your interest zone**

   "Get out of your interest zone"

- **Be the manager of your calendar**

   "Sense of urgency"

- **Trust intuition**

   "If it feels right, just as well it might be right"

- **Forget networks and networking   communities rule!**

   "Where do I belong?"

- **Cultivate your community portfolio**

   "Sharing is caring"

- **Spend time in nature, explore, and relax**

   "Just do it! Let yourself be insightful"

----------------- X --------------- X --------------- X --------------- X -----------------

5.7. Summary

When we are rapidly entering into the Post-Normal Era, serendipity has more chances to change our lives. Our challenge is to understand it in all possible dimensions. Serendipity is with us everywhere and we can improve our chances to harness it by carefully choosing the communities and ecosystems in which we participate.

In organizational settings the challenges are bigger. The ongoing "battle of arrows" will set the framework for serendipity management. Naturally, small companies and especially those following the effectual entrepreneurship principles have the competitive edge. The evolution of business models will move the competition away from single companies: in the Post-Normal Era the competition will happen between ecosystems. And those ecosystems specifically designed and nurtured to respect serendipity will be the winners.

As **Richard Eyre** describes in his book, which he wrote modernized and shortened following the original fable of "The Travels and Adventures of Three Princes of Serendip", the final scene of the fairy tale is inspiring. These last sentences of the fairy tale illustrate the core wisdom in serendipity:

After all the dragons were dead, the golden bird sprinkled the rest of the silver cylinder's contents out across the emerald mountains of Serendip. As they fell, the tiny droplets turned into sapphires, rubies, and opals that still exit in the abundance in that land.

As his sons told him of their adventures and travels, the wise old father, King Jafer, laughed with delight as they realized that the princes' tears of compassion for the poor and afflicted were the very portion that brings death to dragons — and the formula described in Aphoenicius's verse.

The princes became wise rulers of Serendip. They governed with their sagacity, with their compassion, and with the insight and inspiration they had learned both to seek and to follow.

Wherever there are people and usually when least expected, the bird with golden wings and shining eyes occasionally dips into sight, but it is seen only by those who are looking up.