



**CODEC**  
**New Business**  
**Models for**  
**Collaborative**  
**Networks**  
**May 2017.**

**Henryk Stawicki**

CODEC'S RESEARCH  
PROJECTS ARE  
BASED ON VICTOR  
PAPANEEK'S THOUGHT:  
"THE ONLY IMPORTANT  
THING ABOUT DESIGN  
IS HOW IT RELATES  
TO PEOPLE."

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# 01

## BRIEF

<sup>7</sup> Whilst examining the field of design in relation to society, the newly established design collaborative CODEC recognised the following topics as an important subject for research: new management models, collaborative networks, new financial and business models, new knowledge exchange models, and new education models.

Section One presents the backbone to the study of new business models: background, problem statement, research topics, and methodology.

# 1.1:

## Background

Activity of collaborative networks, organisations and processes has accelerated in recent years. Simultaneously, a trend of collaborative platforms, marketplaces and peer communities is on the rise.

All this can be seen as a consequence of dynamic change in both market conditions and the way people work, interact and use technology. A wide set of new challenges comes from new developments in information and communication technologies as well as paradigm shifts in the labour market. In fact, most of the current existing collaborative networks have emerged during the last years as a result of the rapidly evolving challenges faced by business entities and society in general (Camarinha-Matos and Afsarmanesh, 2005).

General empiric knowledge related to collaborative networks is widely available. However, very few research studies or articles focus on their building foundations including strategy design and business modelling. There are only a few mentions in the reviewed sources that specifically relate to the concept of business models in collaborative networks. In fact, there is a limited number of mentions related to the potential of collaborative networks and their impact on the redefinitions of business models themselves.

In this paper a brief survey of the main characteristics of the collaborative network business model is presented, current baseline is discussed, and key principles for modelling are pointed out.

# 1.2:

## Problem statement

Constantly changing global markets bring new types of needs, challenges and standards in production and management of objects, structures, services, information and interactions (Jelen, 2012).

Various response scenarios to theses of new market conditions are emerging, one of them being the formation of collaborative networks. This scenario is growing in scale and is still in a novel state of how organisations and individuals collaborate. That in turn presents opportunities, challenges, and a new mandate for leadership and innovation in the way people collaborate, interact and join for integrated purpose.

One of the most quickly changing among all markets are the creative industries as well as the information technology (IT) industry. This is where new design-led, service and experience-oriented firms are replacing traditional businesses, design and consulting practices. They bring new, paradigm shifting models of approaching the market, collaboration and development such as: scrum, lean, agile, design thinking, customer development and other. At the same time, we see a rapid increase in how people build project and organisation networks that include freelancing professionals, self-employed specialists, startup companies as well as micro businesses. All this brings evolution in the core collaborative elements such as business modelling and designing strategies.

On a scale beyond micro businesses, organisations are evolving from multinational enterprises to international networks, which include large corporations and a series of small and medium businesses, each in a different country and organisational culture, all with a shared mission to be achieved within a limited timeframe. (Binder, 2007)

These challenges faced by business entities and society in general deeply influence how business models could be designed as well as form new opportunities for how people and organisations collaborate.

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# 1.3:

## Research topics

The research developed for this paper has focused on two main areas of investigation as described below:

### 01. Business model innovation as an approach to the support of collaborative networks.

This area will briefly investigate business model innovation that supports networked collaboration. It will focus on a business modelling response to the change in how people and organisations work.

### 02. Business model principles for designing the structure and strategy of collaborative networks.

This area will investigate and propose a set of key principles that form foundations for collaborative network business models. Developed design principles could be further used to define fundamentals for a collaborative network business model scenario.

# 1.4:

## Objectives and methods

Very few research and literature sources are currently available regarding the topic investigated. This research is directly influenced by the novelty of the subject. Therefore, in these conditions, the Knowledge Funnel Model approach developed by Roger R. Martin in 'The Design of Business', was adapted to deliver findings (Martin, 2009). This approach could be briefly described in the following 3 steps:

- **Mystery Phase**  
This step includes field, analogous and inspiration research and analysis. Here investigation of various sources, fields both within and outside of the research scope are conducted.
- **Heuristic Phase**  
This step focuses on forming key elements, testing, clustering and the definition of patterns. Here, forming of the key characteristics and principles for further definition of key elements, patterns and fundamentals is conducted.
- **Algorithm Phase**  
This step delivers a model that integrates key elements as well as definitions and conclusions. Synthesis and analysis of the key principles defined in the Heuristic Phase will be transformed into an algorithm model. In this case the algorithm will be presented in a form of a new business model canvas structure based on the remodeling of Osterwalder's Business Model Canvas (Osterwalder and Pigneur, 2010).

### 1.4.1: Objectives

The conducted research touches areas of strategy, structure, scale, scope of new business models, as well as investigating aspects and angles of the ongoing transformation of existing models in current economies.

It aims to deliver an understanding of the business model elements related to the new ways organisations and individuals could strategically work together. Whenever possible, the investigation tries to relate to the design and creative industry in the CEE region.

The search of an understanding of the specific contexts, complexities, and conditions of the new models is at the core of research objectives.

### 1.4.2: Methods

A combination of qualitative and quantitative methods were used. Both in depth and brief interviews with experts and users were conducted. Desktop research, analogous analysis (exploring analogous examples from non-related sectors) and competitive analysis (exploring examples from related sectors with a focus on bright-spots, fails, innovators and trendsetters) complement the interviews.

### 1.4.3: Structure of the findings

In order to structure the insights derived from the research developed, Osterwalder's business model framework has been used (Fig.1). According to this framework:

01. The business model of an organisation is a simplified representation of its business logic, and
02. the business model consists of four main areas: a) customer point of view (interface), b) value proposition, c) infrastructure management and d) profit equation composed of nine basic business model building blocks that describe all the aspects of the business logic (Fig. 1).

# 1.5:

## Definitions

A network may be defined as a set of nodes and arcs that connect specific pairs of these nodes. These interlinked structures serve as conduits for information, human resources and capital, material flows – and associated risks (Kleindorfer, 2009).

There are, however, many network theories and understandings of what a network is. Definitions vary spanning from social contagion effects, information transmission in a net of given structures as well as endogenous formation of links and nodes. For the general understanding of the starting point for this research the following approach was chosen: The network as interlinked structures that serve as connections for information, human resources and capital, material flows – and associated risks.

When approaching business modelling for collaborative networks, the following four characteristics were defined: the network as a collection of interlinked nodes that exchange information; the node as the most basic part of the network, for example, an individual or an organisation; the link as the connection between two nodes; and a server as a specific node that has connections to a relatively large amount of other nodes.

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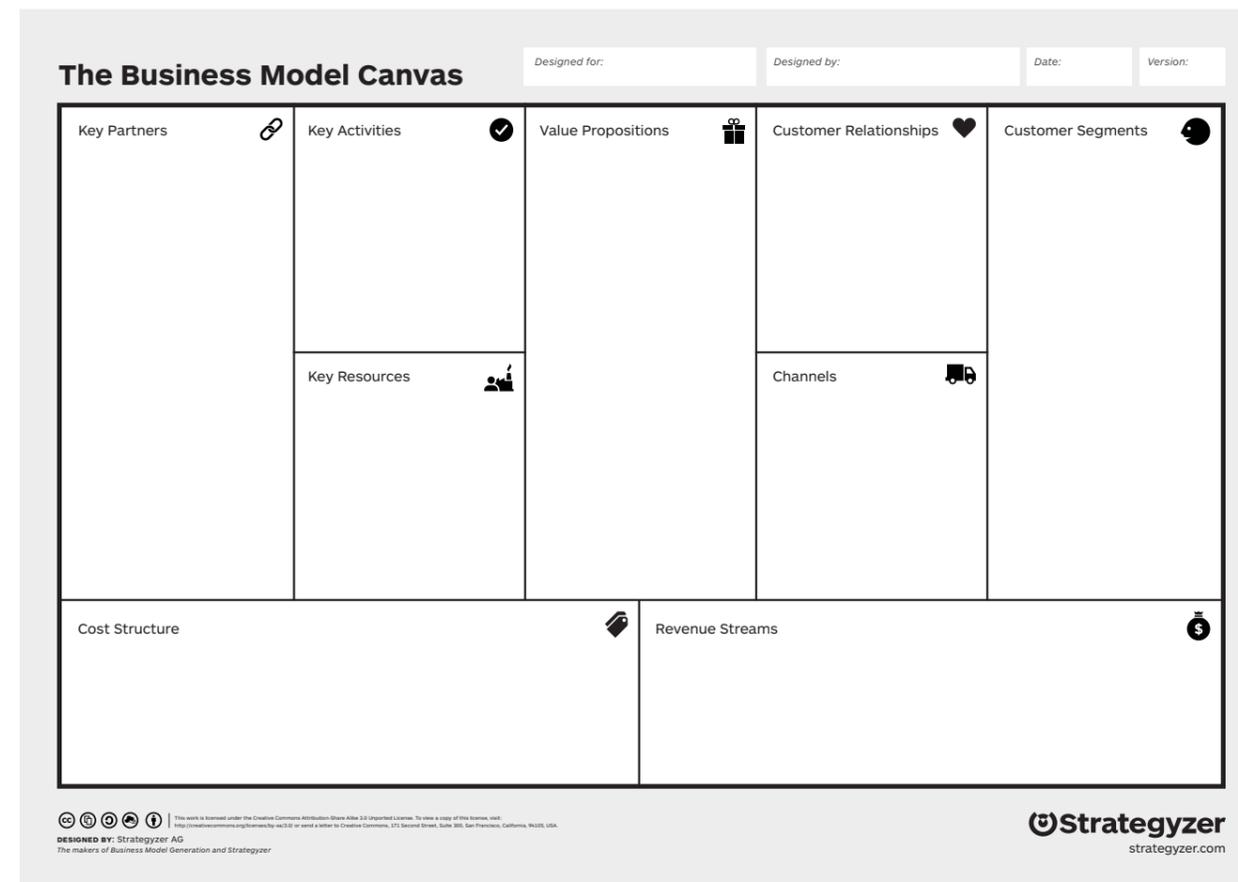


Fig. 1. Nine main areas and building blocks of a business model.  
Source: Alexander Osterwalder and Yves Pigneur (2010): *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*

# 02

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## CONTEXT

<sup>13</sup> **Section Two addresses the understanding of typical networks, what changes we are to expect and what the current responses are to the on-going disruption in the market and social changes in general.**

# 2.1:

## Theories

Network is a key element of business models. In this environment it is understood as a system of production, distribution, and consumption of information goods.

Collaborative network business models are influenced by low-cost, decentralised technologies accessible in a networked information economy (such as social networks, crowdfunding networks, sharing economy networks). Collaborative network business models function through the coordinated coexistence of information, access and partnership producers.

### 01. Collaborative Networks

“Collaborative networks are strategic alliances and partnerships to access (and share) specific markets, to obtain capital resources or sponsorship, or to share R&D and manufacturing skills.” (Binder, 2007)

Such networks may create and offer a specific value that otherwise could have not been obtained individually. Analysis and assessment of the logic of the existing conventional business models does not apply to collaborative network characteristics.

### 02. Networked Economy

The Networked Economy is a new type of rapidly evolving economic environment. It is being developed as a response to dynamic market change influenced by the digitisation and algorithmization of the highly interactive and evolving real-time connections among people, organisations and the devices used by them.

The Networked Economy is the next economic revolution. In the coming years, it will offer unprecedented opportunities for businesses and improve the lives of billions worldwide. In fact, the revolution is already under way. “Over the last few decades, we’ve grown beyond the industrial economy to the IT economy and the Internet economy, each of which led to significant inflection points in growth and prosperity,” says Vivek Bapat, SAP’s global vice president for portfolio and strategic marketing. “Now we’re looking at the Networked Economy.” This new economy, resulting from a convergence of the economies that came before it and catalysed by a new era of hyperconnectivity, is creating spectacular new opportunities for innovation. (MIT Technology Review Custom, 2014)

### 03. Distributed Networks

Collaborative networks may benefit from information and knowledge distribution in the new economies as well as from the decentralisation and distribution of networks. The shift of production from physical goods to info goods, from mass communication to the mass of communicators, distributed networks, represent a new stage of economy. Characteristics of distributed networks

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are especially important for business models based on info goods. This is especially important for collaborative networks that can be information producers – whether as a consultancy, social group, matchmaker or other.

### 04. Networked Information Economy

A Networked Information Economy is a system of production, distribution, and consumption of information goods. Information is a non-rival, as consumption by one doesn’t make it less available to another. A networked information economy is based on distribution or giving access to gathered or produced information. In such settings the information is sold or given away but it still remains in the network for further use or distribution.

Here the information is both input and output, produced “on the shoulders of others”. In the end, it is a big part of the research methodologies, since “existing information goods are used in the production of new ones—standing on the shoulders of giants” (Benkler, 2006). People create and share new information for many different reasons. Not all of these are material. Especially in today’s surplus economy with totally new value propositions, experiences and emotions. “Not all creative efforts are made for the sake of money or even fame.” (Ibid.)

# 2.2:

## Awareness of change

The business models that worked for the last 100 years do not work today. Most industries, including such big markets as automotive, airlines, hotels, are currently under disruptive change. These disruptions are often caused or followed by collaborative network business models. In times of rapid change in economies, society and technology, the traditional view on failures of the companies can be transformed successfully to the new conditions.

“For the first time we can see real changes that will shape our old western world for the near future. When I say ‘changes’ – I mean real changes. In the past 50 years, we have been going through a general ‘Americanisation’ of our lifestyle, work, business culture and systems. I am neither an economist nor a politician, but I notice that this experiment has failed. Together with this failure, all our trusted tools and methods have proved useless. Due to the progress of technology, entire aspects of our lives have changed. We work differently, we eat differently and we spend our leisure time differently,” says Zuzanna Skalska (2015).

Today classical management and strategy textbooks, theories and culture are being challenged at their core. The traditional concept of a firm or an organisation is increasingly becoming outdated in the times of decentralised connections, product surplus economies and the diversity of fluid networks.

# 2.3:

## Business model innovation

Business model innovation is one of the responses to current disruption in the market and social changes in general. Innovation in organisational design requires innovation in a business model. The approach of business modelling helps to analyse and assess the logic of the business and establish new requirements for improving it, or changing it.

### 2.3.1: Value beyond financial outcomes

Organisations and individuals planning to form collaborative networks could consider a business model innovation to take advantage of ideas, competences and resources external to them. From the needs stated, during the last few years, the interest, both from the academic and business environment, in developing and applying the concept of Collaborative Networks for innovation development, as well as Business Model Innovation, has risen significantly (Camarinha-Matos et al., 2010).

Business model innovation should also follow the changing conditions of a surplus economy, where money alone is not enough to guarantee growth. New business models have great opportunity to not be solely based on money and create additional value for the client and derivatives for its members that span largely beyond financial means.

In collaborative networks, nodes relate to other valuable assets such as partnerships, influencers, peers, information, knowledge, and others. Outside of being of non-monetary value, they are also key ingredients of the business model. Also, in the decentralised network, the relevance and connection to already popular nodes can be one of the key values for network members.

# 03

## CASE STUDY

<sup>19</sup> The following case study was investigated to deliver additional qualitative data.

# 3.1:

## Collaborative Network

### Service Design Poland service-design.pl

Service Design Poland is a consulting think-tank operating in the area of service innovation. It is a collaborative network carrying out strategic development projects related mainly to service management based on innovation and design.

### Relevant findings

#### ■ Network members (nodes)

The network is made up of individual nodes (freelancers, companies, experts). The common factor among the members is that they all work with the concepts of Human Centred Design, Open Innovation and Value Co-creation. What differentiates them is that each one of them brings a unique competence, know-how and related perspective. Together all of the nodes form a unique, synergic value based on the project need. The project may include creating value for a client such as conducting a service design project, as well as value for the members such as peer-to-peer meet up or sharing access to contacts.

#### ■ Value for the nodes and network members

One of the key triggers for the network was not to create a competitive offer and brand for the market. It was rather to create peer-to-peer relationships, exchange existing knowledge and tools, as well as create a positive impact on the service design market in Poland. When discussing with members, these were the key drivers and values for the network to form, and that's why it was formed under the name of a 'consulting think-tank'.

Therefore, Service Design Poland primarily delivers non-monetary value to its network members in the form of access to know-how, partnerships and contacts. Secondly, it delivers access to partnerships, assets, strong brands and matchmaking between clients and service providers, whether individual or project based, when special service design teams form. The benefits the members derive from contributing their assets is receiving other assets in exchange without any direct monetary input or derivatives. There are exceptions when monetary derivatives are taken, however this varies from project to project and is usually calculated between the members directly involved in the projects.

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#### ■ Value for the external client

Service Design Poland is involved in both for-profit and not-for-profit projects. Based on mutual expertise, the network delivers a comprehensive offer of strategically design services for both the private and public sector. The services provided are consulting, process facilitation, audit, design and research.

External clients gain access to a network of individual experts that can be coordinated by the network to form a unique and customised project team that is otherwise hard to find on the Polish market, where there is limited number of larger agencies that could deliver such a specific and fairly novel project team. By reaching out to the network, the client gains access to highly specialised experts who form a complimentary service design team, as well as some of the longest cumulative expertise and know-how on the market. Also unique to other organisations, SDP offers a variety of industry and international backgrounds.

#### ■ Service Design Poland as an information producer to create scale

As a consulting think-tank, Service Design Poland, based on cumulative experience and know-how of its members, has together developed a set of free downloadable service design tools for everyone to use. Cumulative knowledge was transformed into free to take information that helps this collaborative network to scale as well as receive attention and understanding of its services in exchange.

# 04

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## RESEARCH RESULTS

<sup>23</sup> In Section Four we discuss principles of new business models for collaborative networks. Two main principles are detected. In each, key elements in understanding both principles are put forward.

# 4.1:

## Principles of new business models for collaborative networks

### 4.1.A: Business model innovation as an approach to the support collaborative networks

These results briefly address business model innovation that supports networked collaboration. It focuses on a business modelling response to the change in how people and organisations work. Below four key elements are described that follow Osterwalder's Business Model Canvas classification approach.

#### 01. The Beneficiary – the segment

At the heart of collaborative network business model lies the beneficiary, which could be the user, the client or both.

In the case of collaborative networks there two distinct beneficiaries: the members of the network (the nodes) and the external client (the receiver of the cumulative value offered externally by the network). Some networks, however, may be formed only to deliver value to its members and do not aim to deliver value to external clients. When coming up with a new business model, this is perhaps one of the areas that needs to be defined first.

In the case of the CODEC network (Co-Design Collaborative, [www.codec.network](http://www.codec.network)), this area was distinguished into internal and external beneficiaries. Internal beneficiaries, for simplification, are called *For Us By Us* (FUBU), where inputs and outputs are used to create and deliver value internally. External beneficiaries (the external clients), for simplification are called *For Others*

*By US* (FOBU), where inputs and outputs are used to create and deliver value externally.

The segment area is the one that requires the most contribution by the partners of the network at the beginning, when forming the model. The analysis of the beneficiaries, their needs and related opportunities, should be included in the analysis from the perspective of all other partners and beyond. The total obtainable market expands when partners come together. This is why wider analysis of the current and potential market should be investigated based on the potential cumulative value delivered to both internal and external beneficiaries.

#### 02. The value Proposition

To create a product market fit, the business model needs to match the customer (beneficiary) segment needs. The value proposition is created by matching the identified needs and building a service, product or any other offer based on it. It requires the participation of partners with different perspectives to offer appropriate products and services that might be formed based on the knowledge, perspectives and assets brought in by the partners.

Additionally, partners can provide the necessary competences to develop the potential new value propositions. When forming new value propositions based on the cumulative input of partners, the value perceived by the customer comes from both the functionalities provided by products and services as well as from non-functional values such as trusted source and brand, gaining wider access to resources and assets or key suppliers that the network has obtained.

#### 03. Activities, Resources, Partnerships

Once a value proposition is created and the product market fit is established for both external and internal beneficiaries, then the business model specification requires the consideration of activities, resources and partnerships. Here, analysis of the infrastructure area, existing assets and access to external ones by each of the members, is crucial. Collaborative networks define these areas in order to deploy the activities of

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the organisation and deliver the value proposition, therefore the following need to be defined:

- Resources needed to deploy the activities of the organisation and delivery of the value proposition. Both internal (brought in by the partners) as well as external (outsourced);
- Specification of the resources brought in by the partners as well as calculation of each member's input in both monetary and non-monetary measurements;
- Establishing milestones and related activities in relation to required resources;
- Partnerships necessary for the implementation of activities or for complementing resources and capabilities.

Additionally, the need for outsourcing some of the activities and resources at the moment of forming the business model may open the network to seek new partners as potential members. In exchange, it may offer them membership and share the network's output in exchange for the new member's input. The advantage of a collaborative network is also that the search for potential new members and partners draws from the existing partners' expanded networks and referrals.

#### 04. The Profit Equation

The goal of any business model is to propose value (to external and/or internal beneficiaries) by reaching an appropriate balance of the profit equation. This equation is understood as a value between the revenue streams and the cost structure. It is crucial that the profit equation includes both financial and non-financial costs and revenues, especially bearing in mind that organisations and individuals only actively engage in collaboration when the benefit they derive is greater than the time, effort, and other costs put into the equation.

The unique characteristics of the collaborative network business model raises questions regarding its business model profit equation. According to Camarinha-Matos, Boucher and Afsarmanesh (Ibid.), by not addressing this issue collaboratively, and therefore

not establishing clear criteria of value contribution / return for each partner, the following undesirable effects can occur:

- Disappointment regarding the return expectations of the network partners;
- Underestimation of some proposals that may not generate direct income, or;
- Specification of a model of revenue streams not commensurate with the cost structures of the partners.

In order to clarify the profit equation from a collaborative network context viewpoint, three complementary practices have been identified as highly relevant:

- The establishment of channels to collect full information about the revenue generated;
- The validation that the business is sustainable, and;
- The creation of mechanisms for ensuring that the different partners achieve their return expectations.

### 4.1.B: Business model principles for designing the structure and strategy of collaborative networks

The following results are a set of key principles that form foundations for the collaborative network business models. These design principles could be further used to define fundamentals for a collaborative network business model scenario.

#### 01. Fit for purpose principle

Collaborative networks are fit for purpose. Primarily, it is the purpose that determines how the network and its business model is structured. Collaborative networks are strategic alliances and partnerships to access specific markets, to obtain capital resources or sponsorship, or to share R&D and other skills. It is crucial that partners agree and define the purpose. The first step should be creating a common understanding of the purpose that will later shape the business model.

## 02. Open innovation and co-creation principle

The open concept of collaborative networks allows them to take advantage of ideas, competences and external resources. Open innovation is characterised by the cooperation of customers, start-ups, suppliers, and competitors within wide horizontal and vertical networks. According to the Open Innovation paradigm, companies can and should use external ideas as well as those from their own R&D departments, and both internal and external paths to the market, in order to advance their technology and processes. Along with this line of argument, co-creation with customers/users as well as crowdsourcing have been particularly stressed. (Chesbrough, 2003)

## 03. Non-financial input - output equation principle

Organisations and people only actively engage in collaboration when the benefit they derive is greater than the time, effort, and other resources it takes to collaborate. The benefit in collaborative networks may be different for each member and therefore should be clearly defined. Also, joint and individual work of the collaboration must be defined, as well as the input brought in.

A collaborative network's main capital is its relationships. Business models are based on capital allocation and therefore classical elements of Key Resources and Key Partnerships need to be redefined for collaborative networks, for both forming (creation) and functioning (implementation) phases. The revenue and value for partners, as well as for the network as a whole, needs to be defined and presented in a way it can be measured.

## 04. Scaling principle

Collaborative networks, especially those made of information producers, have an opportunity to scale rapidly. Currently, a non-market and radically decentralised networked information economy has no physical constraints. Information economics is predicated on economics of long-distance mass distribution to reach bigger and geographically dispersed populations. (Benkler, 2006)

Here, the products have fixed costs that can be targeted to ever larger audiences, creating a low margin for distribution but a high up-front production value of the goods. These characteristics apply to both the scale of collaborative networks as well as the scale of its services and products. Since there is a strong relationship between algorithm and scale, the business model of such collaborative networks should be designed accordingly, as an algorithm ready for scaling.

Collaborative networks possess scaling advantages, where with each additional participant the value grows. At the same time the business model at the moment of formation needs to decide how to deal with scale and prepare for it accordingly.

## 05. Value creation and distribution

Collaborative networks create and distribute value in new ways. They build value through mechanisms that are fundamentally different from such classical approaches as Porter's value chain (1985) for example. Christoph Zott and Raffi Amit identify four major interlinked value drivers that might be important for collaborative networks – efficiency, complementarities, lock-in and novelty (2012). The role of these drivers in business model innovation for collaborative networks is at the core of value creation and value distribution.

## 06. Peripheral vision principle

Networks can improve the organisation's "peripheral vision", to see opportunities and threats at the edges of the business. A collaborative network itself has the power and skill to scan, sense and adapt to new and important signals from the network environment thanks to its different partners, each bringing inputs and perspectives from their own environments. Cumulative peripheral and big picture perspective expands beyond the collaborative network's strategy and focus.

# 05

**LOOK  
AHEAD**

<sup>29</sup> **In this Section we set out a vision for where the development of collaborative networks could go with suggestions on how to get there.**

# 5.1:

## More with less

Collaborative networks create a unique environment and opportunities for forming new business models with members' cumulative purpose and value proposition. Brought together they may deliver stronger or previously non-existing value to both internal and external beneficiaries. At the same time it is a very delicate structure based on different values, expectations and inputs brought in.

In the current surplus economy, when there is enough products and services to choose from, organisations and individuals can work better, to better deliver value that's needed. By working together in collaborative networks, they can achieve more output with less input, ending in better results for members, clients, the economy and the environment as a whole. On the other hand, they can deliver a value that is more complete and better satisfies the needs of the end user.

Achieving more output with less input is one of the strongest value propositions for the collaborative network members – the internal beneficiary. The collaborative and open-innovation approach to forming network business models allows its members to achieve and access more by bringing in what they already have. It is one of the key benefits of collaborative network business modelling for those who already see that there is no need to produce more and create new, independently. Today, in the decentralised economy, organisations and individuals can interdependently synergise their assets, know-how and networks, to create and collaborate better and smarter, to achieve more with less. All that is needed is to find a collective purpose, bring inputs to share and define a synergic value proposition that the market really needs.

# 06

## APPENDIX

# 6.1:

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# 6.2:

## Research Author

### Henryk Stawicki

Henryk offers a unique perspective as both designer and strategist and is capable of designing measurable, unique scenarios for the future. Leading a strategic-creative agency, Change Pilots ([changepilots.pl](http://changepilots.pl)), he helps organisations build strategies for services, brands and products using design mindset and process. Henryk consults and runs trainings in the field of design strategies and management tailored both for entrepreneurs and designers. He teaches Design Management and Design Thinking at the School of Form in Poland. Member of the Advisory Board at Gdynia Design Days and co-founder of CODEC. Always working in transdisciplinary teams, he offers a multicultural perspective thanks to his years of practice in New York City, Poland and London, in organisations such as Parsons School of Form, Replay Creative and studio student work at IDEO.

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# 6.3:

## About CODEC

CODEC, the Co-Design Collaborative is a design driven interdisciplinary network of highly skilled and experienced individuals, companies, associations and research institutes in Europe. We co-innovate with our users by combining rigorous research, vast practical experience and in-depth know-how. We are driven by a common social purpose: to not only do things right, but do the right things.

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Henryk Stawicki

Barbara Predan

Kate Spacek

Dániel Kozma, [diameter.at](mailto:diameter.at)

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