

# Co-Creating User Stories: A Tool for Making Sense of Business Opportunities

Anna-Greta Nyström, Miia Mustonen, and Seppo Yrjölä

“*The real goal of using stories is shared understanding.*”

Jeff Patton  
Product manager and designer  
In *User Story Mapping*

This article discusses co-creation as a means of sensemaking among business-to-business actors, and presents a case study from the information and communications sector, in which the aim is to understand current and future media consumption and behaviour. We propose to expand the notion of co-creation in such a way that it also recognizes interaction and sensemaking between different stakeholders within an industry or sector, compared to the current view, in which the focus is on the consumers' role in co-creation activities. Stakeholder co-creation entails jointly creating meaning of a chosen complex phenomenon by using practical tools, such as narratives in the form of user stories. Sensemaking is a narrative process and can thus be used in combination with practical facilitation tools in order to co-create user stories or other stories, and in other contexts.

## Introduction

Predicting and making sense of the future is a complex endeavour – impossible, yet at the core of every organization's developmental work. The mobile communications sector is preparing the transition from 4G to 5G, aware of possible shifts in trends and media consumption as end users will be able to access greater speed and capacity. Over the decade, we have witnessed the exponential growth of wireless communications with a vast range of diverse devices, applications, and services requiring connectivity. In particular, the number of mobile broadband subscribers and the amount of data used per user is set to grow significantly over the coming years. Recent research points at trends such as increased mobile streaming on demand, increased mobile media consumption on the go, and a visible rise in artificial intelligence and the Internet of Things (IoT) (cf. Ericsson Consumerlab, 2015). Thus, actors are trying to understand the business context within which they operate in order to make decisions on future investments.

The search for clues and signs of future trends relates to a process of sensemaking (cf. Weick, 1995; Weick et al., 2005). Sensemaking is about the process that culminates

ates in interpretation (Craig-Lees, 2001): a social process where meanings become shared and turned into a so-called collective mind. Sensemaking thus requires interaction and communication between individuals and actors. Individuals co-create stories and narratives of the reality and surrounding context in which they exist. Co-creation of stories and alternative realities becomes a tool for making sense of a complex world. However, little is known of how firms jointly engage in a process of co-creation, and how activities along the process aid firms in identifying business opportunities, among other things. The aim of this article is, therefore, to provide insight into co-creation as a means of sensemaking, and to provide practical tools for co-creating a shared view of business opportunities.

The remainder of this article is organized as follows. We first discuss sensemaking and how it can be facilitated and enhanced through co-creation activities. We then present the data used for our analysis and the results from an empirical study of co-creating user stories within a project consortium aiming at understanding ongoing trends in media consumption, and investigating both technological and political enablers needed to facilitate those trends. We conclude by discussing our findings and their implications for theory and practice.

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### Sensemaking through Co-Creation

Weick (1995) argues that sensemaking exists and can be examined; sensemaking is a process in which an individual cognitively applies cultural constructs, makes sense of an inter-organizational interaction event, and ascribes meaning to it (Ivanova & Torkkeli, 2013). Sensemaking allows us to cope with enormous complexities and gives us the opportunity to turn circumstances into a situation, which we can understand explicitly in words (Bean & Hamilton, 2006; Weick et al., 2005). Sensemaking focuses on the interplay between interpretation and action (Mills, 2003; Weick et al., 2005). Without action, there is no sensemaking (Weick, 1995). The notion of action and its importance in the sensemaking process is elaborated further by Czarniawska-Joerges (1992), who states that sensemaking depends more on shared actions and less on, for example, shared goals.

Similarly, interpretation and meaning-making are at the core of "creation", or the culture of co-creation (Ind & Coates, 2012). Meaning is always co-created. Ind and Coates (2012) note that co-creation has emerged due to the coincidence of several developments, such as the mainstream adoption of Internet technologies, the orientation towards services and experiences, a more open approach to innovation, and the growth of social, collaboration, and customization technologies. Researchers often refer to co-creation as *value* co-creation (cf. Saarijärvi et al., 2013). Alves and colleagues (2016) identify research streams on co-creation, such as service theory (cf. Vargo & Lusch, 2006), innovation studies (cf. Saarijärvi et al., 2013), many-to-many marketing (cf. Bogers et al., 2010), postmodern marketing defining consumers as prosumers (cf. Bendapudi & Leone, 2003), and consumer culture theory. However, common to these research strands is a focus on the consumer as one part in the co-creation process. Even though Ind and Coates (2012) note that co-creation has become a widely used term to describe a shift in thinking from the organization as a definer of value to a more participative process where people and organizations together generate and develop meaning, the focus of researchers is seldom co-creation between organizations in an attempt to structure and make sense of the surrounding business context, changing consumption habits among end users, potential business opportunities, changing business models, etc.

Research on co-creation in a business-to-business setting is scarce. An exception can be found in industrial

network theory, where value co-creation is studied in buyer-seller relationships or business network constellations (cf. Ford, 2011; Hyötyläinen et al., 2011). Co-creation has so far focused on exploiting consumers and other stakeholders who offer their time and intellect for the benefit of organizations. In a business-to-business setting, stakeholders should be engaged in a reciprocally useful way; answers or insights are not existing somewhere and waiting to be discovered, as Ind and Coates (2012) put it. Rather, they have to be discovered with others. It is the process of co-creation and the co-discovery through interaction that generates new ways of seeing the world. Thus, sensemaking materializes in co-creation of meaning; sensemaking can be considered a process of co-creation and vice versa, co-creation can be considered a process of sensemaking. In order to study the phenomenon further, we propose the notion of *stakeholder co-creation* in order to shift focus from co-creating with consumers to co-creating among business-to-business actors, in other words, representatives of industry actors co-create a shared view of the world, current business settings, phenomenon, etc.

### Case Study: Co-Creating User Stories

We use a qualitative research approach in order to study stakeholder co-creation. We chose a project consortium in Finland as the case study for researching sensemaking through co-creation, namely "The Future of UHF" ([fuhf.turkuamk.fi](http://fuhf.turkuamk.fi)), which is financed by the Finnish Funding Agency for Innovation, Tekes, from 2015 to 2016. The project partners represent research institutions, mobile network manufacturers, mobile network operators, broadcast network operators and broadcasters, as well as technology developers. The consortium is unique given that the participants cover different parts of the mobile communications ecosystem. The scope of the project is to study supplemental downlink (SDL) technology, which is based on 4G mobile networks, and to offer a solution to a problem with the networks' frequencies and their limited capacities. The technology enables mobile operators to transfer video content to consumers on the same spectrum band without disturbing the normal TV operations and enables flexible use of ultra-high frequency (UHF) for media and mobile broadband. This approach allows for more efficient utilization of spectrum and for the broadcasters to better reach their increasingly mobile audience. The project thus explores how to fulfill 5G needs and requirements.

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One of the activities in the project is a bi-monthly facilitated workshop with a specific theme. During 2015 and the first half of 2016, nine whole-day workshops were held. Among these workshops, we focus on three in which user stories were jointly created for internal use in the project and as a basis for upcoming topics within the project: future scenarios and business models. During the workshops, notes were taken continuously. The materials produced (post-it notes, hand-written stories, drawn pictures, etc.) were stored and categorized according to: i) which one of four user stories it related to and ii) which actor the individual who produced the material represented. As the main source of data, we use the outcome of the workshops: the co-created user stories.

### *User stories as narratives*

User stories as a concept can be found mainly within information systems and computer sciences, where they relate to different stages of system development and are used in determining system requirements. A user story consists of a few sentences in the everyday language of the end user and has the goal of capturing the essence of part of the work a user does or needs to do (with the system) (cf. Dimitrijevic et al., 2015; Jeffries, 2001). The INVEST model depicts user stories as: i) independent, ii) negotiable, iii) valuable to users and customers, iv) estimable, v) small, and vi) testable (Cohn, 2004). User stories are business oriented (Trkman et al., 2016), and typically they follow a template designed for contributing to programming, system, and software development projects. However, Lucassen and colleagues (2016) point out that user stories are limited in terms of improving quality and there is a lack of empirical studies on their use and effectiveness.

In our case study, user stories were, together with future scenarios, one of the main topics during a number of workshops in 2015. A researcher facilitated the workshops and prepared tasks and tools for the workshop participants. Co-creating user stories was one of the tasks given to the participants. Four user stories, representing "Paul", "Rita", "Minnie", and "John" as fictional users or consumers, were developed jointly and summarized in text by the facilitator (see Boxes 1 to 4). The facilitator asked each workshop participant to individually write stories on the four fictional users or consumers, answering the questions: i) who? (person), ii) what? (action), iii) where? (location, situation), iv) when? (time), and v) why? (motive). After this, the participants were paired together in order to develop the stories collaboratively. These stories were written and

drawn on large sheets of paper to make the stories visible when subsequently presented to the whole group. The whole group then further developed the user stories. From the facilitator's perspective, the structure follows the method of *me-we-us*, in other words, ideation individually, in pairs, and, finally, in groups.

### Findings and Discussion

The case study features the information and communications sector and a consortium working together in developing technology that aids the transition from 4G to 5G. The participants co-created four user stories: more than 50 individual narratives were presented, discussed, compared, and transformed into shared understandings of the current user of mobile devices. The participants had to interpret the ideas of competing actors and collaboratively discover the user stories, their contexts, and their features. Given that sensemaking comprises both past experiences and expectations of the future, the co-created user stories also act as representations of the future by expressing unmet customer needs and possible shifts in behaviour. For instance,

#### **Box 1.** Paul's story

Paul is 68 years old and lives with his wife. He has been retired for three years. He has an active social life, exercises several times a week, and travels with his wife.

#### *Media behaviour in general*

Paul appreciates routines and his media usage has remained the same throughout the years. Last year, Paul's children bought him a tablet, and Paul also replaced his old mobile phone with a smartphone. The new devices have changed Paul's everyday life and the way he consumes media. Paul also has a laptop, which he uses frequently. However, Paul does not want to give up TV and radio.

#### *Devices used and for what purpose*

- Laptop: for practical tasks such as paying bills, buying tickets, etc.
- Tablet: for reading newspapers and novels, and watching TV shows
- Smartphone: for calling, following real-time news and map services (navigation)
- TV: for regular TV watching, mostly sports
- Radio: the radio is always on at home, even when nobody is actively listening

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the increased use of smartphones and apps with movie features pose capacity challenges for mobile broadband networks. The discussions during the workshops quickly turned towards the enabling of mobile broadband networks and how they should support diverse personalized uses, services, and applications besides offering voice and data. Drawing up these fictional users and how they use mobile devices for various purposes allowed the participants to relate end-user personas and scenarios to regulatory and technology issues. A key point is to allow the participants to discuss, share, and debate ideas and thoughts, guided by a facilitator who keeps the time schedule, helps summarize the discussion, and assures results.

The user stories were later on used as starting point for creating future scenarios of UHF. It was therefore important that all stakeholders accept and understand the collaboratively created user stories, as the sensemaking processes continue in the project with new topics. Stakeholder co-creation provides an opportunity to expand and form perceptions of ongoing trends. Stakeholder co-creation in the case study refers to *meaning-making between industrial partners* without the involvement of end users in the process. Stakeholder co-creation may, however, be a step towards engaging with end users and including them as stakeholders in the co-creation of, for instance, more versatile user stories or specific services featured in the user stories.

### Box 2. Rita's story

Rita is a 45-year old single mother with two boys, 8 and 10. She works as a secretary in a multinational corporation. Most of Rita's time is dedicated to the children and running the household; she does not have much time for herself and own hobbies.

#### *Media behaviour in general*

Rita's everyday life is structured around her two boys and their hobbies, running the household, and her work. Mobile devices and services facilitate her life. Her laptop is usually at the office. Rita bought a tablet a few years ago, which she uses frequently. She also uses her smartphone frequently. She wants her boys to be able to reach her at all times; they also have smartphones. It feels like her boys learn new technology much faster than she does, but she tries to keep up with the latest apps in order to understand what the boys are talking about.

#### *Devices used and for what purpose*

- Laptop: for work, paying bills, watching movies, and shopping
- Tablet: used mainly at home in the evenings, while waiting or commuting, for managing practical tasks, watching movies and TV shows, reading news, shopping, and following social media sites
- Smartphone: for calling, reading news, receiving offers, and navigating
- TV: in the evenings, Rita watches TV with her boys.

### Box 3. Minnie's story

Minnie is 32 years old and is single. She is a career woman who works as a social media strategist at a large company. She has an active social life, travels, and plays sports.

#### *Media behaviour in general*

As a social media strategist, Minnie keeps herself up to date with work at home and while travelling. She multitasks by using several devices simultaneously and has developed quite regular routines or "checking habits". Minnie feels she must be reachable at all time. Her most important tool is the laptop, which she always carries with her. The smartphone is also actively in use, as it is a simple way of staying up to date. Minnie's work requires a functioning Internet connection, for updating blogs and social media sites, and for uploading and downloading video clips and pictures. In her free time, Minnie uses different media services, especially to manage her life.

#### *Devices used and for what purpose*

- Laptop: for work; reading news, blogs, and vlogs; creating networks (LinkedIn); booking trips and hotels; listening to music (via Spotify); and watching movies
- Tablet: she carries the tablet along, but uses it seldom. She uses apps such as Netflix, Spotify, and blogs.
- Smartphone: Minnie is an active user of WhatsApp, Facebook, Twitter, and Instagram. The smartphone functions as a physical calendar, booklet for making notes, etc.

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### Box 4. John's story

John is 14 years old and lives with his parents and two siblings. He goes to school, plays ice hockey two times a week, and enjoys playing computer games and spending time with friends.

#### *Media behaviour in general*

John is what they refer to as "digi-native", and he uses his smartphone and content services daily (at school, with friends, while waiting on the bus, etc.). John uses the family tablet and laptop at home, mostly for schoolwork. In his free time, John plays computer games and actively participates in discussion forums related to these games. John also uses his smartphone for playing games. John would like to have the latest smartphone model, just like all of his friends. They demonstrate and recommend to each other the latest and coolest apps. John uses the smartphone for sending messages (also during lessons at school). John appreciates the fact that his teachers use online material and games in their teaching. John never listens to the radio; he wants to decide himself what kind of music he listens to, where and when.

#### *Devices used and for what purpose*

- Laptop: John uses the family laptop for doing schoolwork
- Tablet: John uses the family tablet sometimes when playing games late in the night
- Smartphone: actively used for playing games, watching videos on YouTube, and communicating with his friends using WhatsApp. Calls are made mostly using Skype.

## Conclusions

From a managerial point of view, sensemaking can be viewed as an approach where actors, or stakeholders, representing different positions in the industry value network, are invited to an event or workshop, in which they co-create representations of their business context. Sensemaking can thus be used in combination with practical facilitation tools in order to co-create user stories or other stories, and in other contexts. The facilitation tools depend on the aim of the workshop or event, and should activate the participants (e.g., service design tools such as customer journey mapping, scenario writing, collective mind maps, open spaces, and world cafés).

Based on lessons learned developing the case study described in this article, we offer managers three recommendations for co-creating user stories among stakeholders:

1. Use a facilitator to aid the co-creation process and goal-setting.
2. Facilitate interaction and communication by using activation tools.
3. Create the user stories in multiple steps, allowing all participants to individually create stories, which are then collectively developed further.

From a theoretical point of view, and based on the case study, we propose the concept of *stakeholder co-creation*, by which we refer to *co-creation carried out in a business-to-business setting among industry partners*. Through stakeholder co-creation, industry actors aim at making sense not only of business opportunities and industry-related events, but also of the end user per se. Currie and Brown (2003) suggest that we can collectively make sense of our social world through jointly negotiating narratives, or stories. Stakeholder co-creation addresses this issue by shifting focus from the exploitation of consumers in developmental and sensemaking processes to the interaction and sensemaking process among business-to-business actors.

Research on creative processes among business-to-business actors is scarce. In terms of the current case study, it is limited as it studies merely one consortium and stakeholder co-creation based on user stories as the overall topic. We call for more detailed descriptions and analyses of stakeholder co-creation processes and suggest using individual stories as data for content analysis. The dialog between individuals and group conversations become data for qualitative analysis, when taped and transcribed. Also, co-creation in different settings offers a research theme to explore further; combined with new perspectives, co-creation as a concept should be broadened and developed further into sub-categories, such as stakeholder co-creation.

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