

## Collaborative Innovation Ensues Innovation Through Pastiche

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**Abstract:** One of the means to address societal challenges in the European Union is through social innovation programs and through increased call for collaboration amongst public and private entities. This paper presents a theory that innovation through *pastiche* is an unacknowledged trend in the field of collaborative innovation. As suggested by the researcher, Living Labs are “a human-technology interaction innovation entity utilizing a mix of methods, tools and principles drawn from known disciplines (design, science, etc.), set in a real environment and in a locale/societal scale” for the purpose of social innovation and finding business opportunities. The researcher analyzed related publications of articles within 2005 – 2011 and analysis were made as a practice and not per Living Lab. The researcher concluded that collaborative innovation as observed in the Living Lab, results to a pastiche of best methods working together towards innovation with a collaborative consensus among multiple founding actors.

**Key words:** Collaborative innovation; Innovation through pastiche; Pastiche method; Living Lab

### 1 Introduction

Firms are now collaboratively innovating<sup>[1]</sup>, globally networking and public-private partnerships are becoming crucial elements in companies' innovation processes and in addressing environmental and societal challenges through user involvement and co-creation<sup>[2]</sup>. Societal challenges are considered to be “wicked problems”<sup>[3]</sup> arising from the social realm and need to be addressed through social innovation. Social Innovation (SI) is “the process of inventing, securing support for, and implementing novel solutions to social needs and problems”<sup>[4]</sup>. Social Innovations then are “new ideas that meet unmet needs”<sup>[5]</sup>. Governments around the world now support SI through collaboration, e.g. Social Innovation Europe<sup>1</sup> (SIE – supported by European Commission) sponsors and presents the different initiatives of 32 countries; USA has the Office of Social Innovation and Civic Participation<sup>2</sup> (SICP) aimed at sponsoring and developing community solutions and new models of partnership; UK's Big Society Capital (BSC)<sup>3</sup> aims at “developing a strong, diverse and sustainable social investment market” enabling organizations to tackle social issues through social investment; and a more futuristic program by the European Commission's *Europe 2020 - Innovation Union Lab*, setting a goal for “more jobs, improved lives, better society”<sup>4</sup> with thirty action points to address. There are also initiatives by non-government organizations in cooperation with private firms such as China Social Innovation Foundation, The Young Foundation, Social Innovation China (SIC)<sup>5</sup> for meet up with entrepreneurs similar to TeD Talks which has different segments. What the trend suggests is that Social Innovation as well as inspirational platforms for innovation is regarded to be a collaborative endeavor, whereby the norm of top-down is supplemented with a bottom-up approach in the hope of mobilizing everybody.

*“The Bottomline is clear: Solutions to America's challenges are being developed every day at the grass roots - and government shouldn't be supplanting those efforts, it should be supporting those efforts.”*

~ President Barack Obama, 30th June 2009<sup>22</sup>

The researcher focused on the study was to elicit the methods used in a collaborative social innovation project. Methods are defined as procedures for data collection, evaluation or experimentation, idea elicitation and techniques utilized during the planning or execution of the project. The setting is the practice called “Living Lab” (LL). It was given preference due to the close affiliation and reputation in engaging a specific locale/society or a group of users or consumers, whereas compared to other innovation projects LL are more considered to be open to public.<sup>[6; 7]</sup> Innovation projects that are LLs were analyzed for

<sup>1</sup> SIE, started March 2011, <http://www.socialinnovationeurope.eu/>

<sup>2</sup> White House office of SICP, started August 2009, <http://www.whitehouse.gov/administration/eop/sicp>

<sup>3</sup> BSC, July 2011, <http://www.bigsocietycapital.com/>

<sup>4</sup> Innovation Union Lab, [http://ec.europa.eu/research/innovation-union/index\\_en.cfm?pg=intro](http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=intro)

<sup>5</sup> SIC, started March 2010, <http://socialinnovationmeetup.grou.ps/home>

stakeholders or partners involved in the project and the methods used. The results presented are part of a broader research regarding the Living Lab phenomenon previously studied by the researcher.

## 2 Literature Background

The discussion below presents collaborative innovation and its role in advancing societal issues, a discussion of mix of methods approach or innovation through pastiche method towards innovation, and comparing this to the LL setting. In a separate article by the researcher, Living Lab was defined as “a human-technology interaction innovation entity utilizing a mix of methods, tools and principles drawn from known disciplines (design, science, etc.) and set in a real environment and in a locale/societal scale. In addition, Living Lab operates in a “multi-” mode that is evident in its multi-stakeholder, and multi-discipline nature which eventually leads to a multi-method approach, and is often implemented multi-culturally for internationally collaborated Living project. The phenomenon is within the context of innovation and has multiple applications. Performing a keyword Google search on July 2012 for the keywords “mixed-method innovation” results to four links; while “pastiche method innovation” yields no result. However, a working article by Robert Porter Lynch entitled *Architecture of Collaborative Innovation* states that “Innovation” is a “fragmented pastiche of methods, allusions, processes, frameworks, tools, and techniques.” His observations resonated strongly with the researcher’s point of view; but whereas Lynch describes the situation, the researcher provides data to prove that Collaborative Innovation results to pastiche method for innovation

The manifestation of multiple stakeholders collaborating for innovation and usage of different methods during the LL project execution will be elaborated on this paper. With this in mind, discussion about collaborative innovation and social innovation requires some elaboration. Collaborative innovation is enabled by the lowered cost for doing collaborative research and development<sup>[8]</sup>, and growth of network relationships among businesses. Collaborative Innovation with customers is increasingly essential for development of new products and services<sup>9</sup>. The term Collaborative Innovation is a common lingo in businesses but there is little research highlighting this in the field of Social Innovation which is a paradox, because it is pretty much the norm in dealing with societal challenges. Christensen, et al.<sup>[10]</sup> suggest supporting catalytic innovations, defined as “low-cost and simple but useful services for people whom traditional social sector organizations ignore” for a progressive society. Social innovation has been increasingly shorthand for the approach public-private partnership (PPP) and adds more to it by transforming public services by tapping people in the private sector, especially social entrepreneurs<sup>1</sup>. The continuing paradigm shift has also influenced the firms to do collaborative innovation with customers.<sup>[9; 11]</sup>

Initiated projects engaging on a specific locale users has chosen the “Living Lab” concept as a means for social innovation in rural areas<sup>[12]</sup> to serve social needs in a sustainable manner<sup>[12]</sup>. Arguably there is no denying that Living Lab tries to tackle societal issues collaboratively, however researchers produced few research describing methods used in operating a collaborative innovation in the field of social innovation. Literature regarding the principle of mixed method research approach is suggested to have a “methodological pluralism or eclecticism, resulting to a superior research as oppose to mono-method research.”<sup>[13]</sup> Pastiche method for innovation as a metaphor representing the varied carefully amalgamated methods used in an innovation project, to avoid confusion the mixed-method approach was not used as the term has strong links to research but lacks the affiliation with innovation. The researcher will try to explain that collaborative innovation thrives due to the openness to assimilate other forms of methods or “innovation through pastiche” and one example for this study is the Living Lab.

## 3 Data and Methodology

Data was mainly drawn from articles through comprehensive search on scholarly works engines. The qualitative nature of the data gathering was helped by qualitative analysis of Strauss and Corbin<sup>[14; 15]</sup>. The articles are a rich source of data for the study as it elicits all the methods used to carry out the project. The researcher evaluated relevant scholarly publications and conference material between the years 2005 to 2011. Published articles included scientific journals, IT journal, conference paper proceedings, and books. The articles were gathered on November 2011 to December 2011 and resulted to 268 articles, using ACM, EBSCO, Google scholar, IEEE Digital Explore Library, Mendeley, Piccarta,

<sup>1</sup>The Economist, 12 August, 2010; Social innovation: Let's hear those ideas; <http://www.economist.com/node/16789766>

Sage Journals, Science Direct, Springerlink, Taylor and Francis and Web of Knowledge. The search has been exhaustive and was representative of the publications. The keywords used were “living lab approach, living lab, living labs, living laboratories, and living laboratory”. Methods are defined as procedures for data collection, evaluation or experimentation, idea elicitation and methods utilized during the project operation and execution.

### 3.1 Data Analysis

The methods that were used hand-in-hand are: principles from grounded theory approach as explained by<sup>[14]</sup>, and qualitative data analysis <sup>[16]</sup>. Grounded Theory is defined as theory derived from data systematically gathered and analyzed through the research process. Techniques, such as open coding, memoing, axial coding, theoretical sampling and others were used to come up with a sound analysis of the phenomenon. Memoing is defined as the process of the researcher recording analysis, thoughts, interpretations, questions and directions for further data collection. Coding is done by identifying the most important keywords with in the paragraph or block of data. It can be done in vivo (informants/interviewees words), or in concept (the researchers own interpretation). In generating concepts, questions such as who?, why?, how?, why this way? and when?, were asked while looking at the data<sup>15</sup>.

## 4 Results

The discussion of the results will be in two parts one for the general results from the 64 LL which were defined with the aid of the 107 articles combined together with the interpretations of the eight interviews.

### 4.1 Utilized methods/techniques

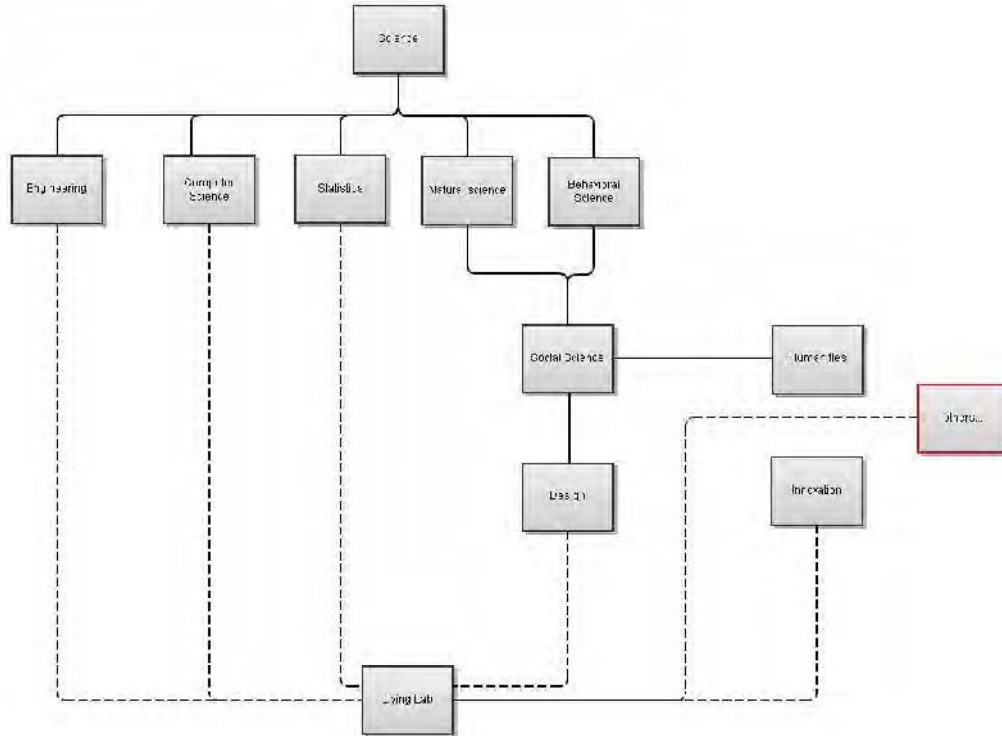
Based on the data Living Lab as a practice utilized the 62 methods (shown in Figure 1) *e.g.* action research, agile method software development, analogies, anticipation analysis, association techniques, basic design, etc. It spans across different disciplines which would represent the LL practice. Under the 62 methods, thirteen different frameworks (but categorized as one) or method were created and applied by other LLs. The same trend has been observed by the participants of the interview. Interview participants expressed some methods working together with the project framework/method being deployed.

**Figure 1 Methods from Varied Disciplines**

Methods	
Action Research	Idea cards
Agile method software development	Interview
Analogies	Market Research
Anticipation Analysis	Media blitz
Association techniques	Narratives
Basic Design	Observation
Blog	Participatory design
Brainstorming	Persona
Branding	Problem Definition
Card sorting	Procedure/Process redesign
Census	Project management
Clustering	Prototype
Co-creation	Qualitative research
Contextualized Model/Scheme/Framework - 13	Questionnaire
Data Gathering	Scenario
Design-oriented research	Self Documenting Methods
Diaries	Seminars
Discussions	Service Experience Engineering
Domestication framework	Service Oriented Architecture
Electronic data collection	Software Development
Empirical Setting	Storyboards
Ethnographic Methods	Survey
Experience Application Research	Systematic Pluralism
Experience Sampling Method	Test methods
Experimentation	Trend Analysis
Extreme programming sessions	Unified Modeling Methodology
Feedback	Use Case
Field Study	Use Case Driven
Focus Group	User-centered design methods
Human computer reaction	Visual Mind Map
Workshops	Visual narratives

**4.2 Traced methods/techniques**

These methods were traced to be from various disciplines from Behavioral Science, Design, ICT, Management, Marketing, Patent, Scientific, Social Science, and Statistics as depicted in Figure 2. Although there is an unsettled debate as to what constitutes whether LL is a method or a concept, there is a consensus about the importance of users' role in a LL project. The researcher wants to add in the discourse that LL is a concept which utilizes the "art of pastiche" as shown in the data. These characteristics can be one of the tacit factors that make LL appealing to researchers and innovation firms.



**Figure 2 Origin of Methods Drawn by Living Lab Practitioners**

As the Living Lab concept grows in its applications, it is the researcher's opinion that the number of discipline method will grow as well, which is a sign that innovation through pastiche is the way forward in collaborative innovation. Having said this, the data also suggests that collaborative innovation in the LL setting is evidenced by the number of partners involved or expected to be involved. The founding partners are normally composed of university and affiliate research firm, government, and private firm, and the public: University acting as host organization of the project in cooperation an affiliate research organization that provides researchers who act as facilitator; European Commission, national government or local government for funding and co-innovation on public policy and local development; private firms that provide technology expertise, products or services which is being tested, and monetary investments; and crucial to this partnership is the group of users, or consumers, to whom ideas will be sourced and validated, and hopefully trigger researchers for inspirations and discoveries with the feedback and behavior of users or consumers.

The diversity of used methods and the flexibility of the practitioners to incorporate different methods can be attributed to the partners or actors involved in establishing the projects. Reflected in Figure 3, most of the LL projects had a minimum of four actors from different classifications: university, users, private - profit and nonprofit oriented and active participation and funding from government. Actors from across different disciplines and interested parties are incorporated during the establishment of the innovation project.

**Figure 3 Living Lab Actors**

#	Name of Living Lab	# of Identified Actors
1	Social Media Experience and Design Lab	2
2	Botnia LL	3
3	ELLIOT (Experiential Living Labs for the Internet of Things)	3
4	e-Paper living lab	3
5	HP living lab - Andhra Pradesh	3
6	PlaceLab	3
7	UBI - Pilot 2009	3
8	Accessible digital home	4
9	Coffee Comer LL	4
10	Cudillero Living Lab	4
11	Digital participatory design living lab	4
12	Future Care Lab	4
13	FZI Living Lab AAL	4
14	DFKI Competence Center for Ambient Assisted Living	5
15	eStadium living lab	5
16	Future retail center living lab	5
17	ITAIDE living lab	5
18	LivingLab4Carers	5
19	MyHealth@Age	5
20	Porvoo Campus living lab	5
21	Design creativity city living lab	6
22	i-City living lab	6
23	Living Labs in south africa	6
24	Mocatour living lab	6
25	Owela - Open Web Lab	6
26	Record online living lab	6
27	Agri-Food	7
28	Airport Living Lab - Arlanda, Sweden	7
29	Amsterdam living lab	7
30	Corelab	7
31	Halmstad living lab	7
32	Intelligent Life Scheme	7
33	RLABS - Reconstructed living lab	7
34	ROMAS-project	7
35	Save energy project	7
36	Selund Living Lab	7
37	Taiwan living lab	7
38	Trentino as a Lab (TasLab)	7
39	T-Seniority - proposed	7
40	Aristoteles LL	8
41	Bremen assisted living lab	8
42	Czech living lab	8
43	Helsinki-Tallinn Euregio	8
44	Sekhukhune Rural living lab	8
45	Siyakhula living lab	8
46	Turku Archipelago Living Lab - Archipelabo	8
47	Asuke Project	9
48	Ecospace	9
49	Cross Border Cooperative Pilots (Crocopil)	10
50	Digital Madeira Living Lab	10
51	maXi project	10
52	Schwechat - Ambient Assisted living lab	10
53	Beer Living Lab	11
54	Freeband & Kenniswijk living lab	11
55	Homokháti living Lab	11
56	Paper living lab	11
57	Food living lab	12
58	Mediterranean living lab	12
59	Skagen Living lab	12
60	Singa laboratory	13
61	Drug living lab	14
62	Sustainable Construction Living Lab (SCLL)	14
63	C@R II	16
64	wearIT@work project	20

### 4.3 Social Innovation in Europe

The data suggests that most of the Living Lab activities are concentrated in Europe; a result of the national and European level sponsorship and encouragement of innovation. Possible usage of technology, open data or information technology and future opportunities in societal issues are seen as key in solving the current EU challenges. However encouragement and sponsorship has been expanded to a more concrete measurement by the European Commission: Horizon 2020 endorsement of an Innovation Union Lab which is job creation<sup>1</sup> and focuses on societal challenges facing EU society<sup>2</sup>, e.g. health, clean energy and transport. Scaling up of the innovation efforts can be supported by the proposition of the researcher that on the different innovation projects innovation method from different disciplines and sectors should be encouraged to have a dialogue and increased interaction as these results into a more inspiring and can possibly trigger unexpected innovation. Whereas ICT innovation clusters and business incubators emphasize profit goals, social innovation projects such as LL has it as an underlying goal but has high emphasis on public co-creation of solution enabled by the close interaction of different partners for social issues and it is achieved by the rich perspective and methods that is put into action during the project execution.

## 5 Conclusion

The researcher observed the phenomenon of “innovation through pastiche” by studying the LL concept. Living Lab researchers and practitioners create a neutral environment for collaborative innovation. Proof of success of the LL collaborative innovation is still in question and can be a focus of future researchers but what is visible is the growing practice and research interest evidenced by the number of previously executed and ongoing projects such as Stanford’s Living Lab<sup>3</sup> promoting sustainable food, and the upcoming University of Leiden’s The Hague Living Lab<sup>4</sup> for peace and justice. The focus of the research concept is quite varied and challenging such as eHealth - aging well, ambient assisted living; rural inclusion and development; cross border trading; public eServices; and others. Challenges that require small scale projects for developing solutions, by putting users/consumers in the center of the social innovation projects with the support of different parties. The scaling of solution testing then enables the project to be performed in a societal scale.

Different parties mean different perspectives, manners of execution and means of execution of a project; and so the main focus of this paper to suggest that Innovation through pastiche is an observable trend in the LL practice and should be fostered. The diversity of methods coming together to form a specific innovation project is a tricky proposition but the convergence<sup>[17]</sup> of practices and methods from different fields and disciplines have been observed in media organizations<sup>[18]</sup>, learning<sup>[19]</sup> and increasingly in social innovation. Although social innovation can be done by social entrepreneurs, performing it collaboratively is a more structured alternative to making sense of the social challenges that Europe and the rest of the world is facing.

In summary the researcher was able to provide a basic understanding on the trend of pastiche in the form of utilized method of research concept through Living Labs. For further research, innovation through pastiche for social innovation can be a win-win situation, as it empowers each of the founding actors of the project and allows an exchange of ideas. However, further research is needed not on the perspective of an entire practice but on the micro-level (per collaborative project) specializing on social innovation for profit or non-profit. Articles are a rich source of data but additional interviews can be performed to get more data as well as participating in an ongoing project. The current research only provides an optimistic perspective of the pastiche method in collaborative projects, but does not discuss the dark side of a collaborative organization such as Living Labs as well as the method of “pastiche” in collaborative projects. Elaborate research on the different categories of social issues that can be performed collaboratively and the mechanics involved in executing the project will further develop the knowledge regarding mix of methods approach. The manifestation and increased call for collaboration and dialogue between different parties can also be researched with a focus on the “collaborative culture” in the field of emerging ICT innovations for social innovation. Collaborative innovation in the setting of social innovation is fast becoming a culture rather than an isolated case of tackling social issues; it can be

<sup>1</sup> Innovation Union Lab, [http://ec.europa.eu/research/innovation-union/index\\_en.cfm?pg=intro](http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=intro)

<sup>2</sup> EU Framework, Horizon 2020; <http://ec.europa.eu/research/horizon2020/pdf/press/horizon2020-presentation.pdf>

<sup>3</sup> University Food Stanford as a Living Lab, <http://www.youtube.com/watch?v=iJ1ORCIjdY4>

<sup>4</sup> European subsidy for Living Lab The Hague, 22 August 2011, from <http://en.denhaag.nl/en/residents/to/European-subsidy-for-Living-Lab-The-Hague.htm>

that societal inclusions in the innovation process, sponsors this trend or that this is an effect of the ever increasing accessibility to infrastructures and tools that weren't available in previous decades.

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