ValueConnect in Forest Bioeconomy

Slutrapport

1. Description of the research that has been carried out

The original research project was heavily influenced by service-dominant logic (SDL) that has become a popular theorization of exchange in marketing literature. When starting the project in 2019, iterations to the plan were conducted in two workshops. The objective was to turn the project towards suggestions about what the novel connections in the original research plan could mean and how their benefits could be evaluated. The trials resulted in suggesting that telling more about the source of origin would be interesting. Because the original hypotheses were built on an assumption that forest bioeconomy actors would see value in telling such stories, focus was put on searching for industrial partners considering the idea interesting.

However, ideas resonated only on a low level because companies did not see narrations to be beneficial for profitable business, i.e. they were not considered creating additional value. They understood that stories can be told but it costs. Based on the theoretical background, no justified reasons how and why these stories would actually create value, was not found[1].

Further, it was pointed out that companies already use narrations and emotional messages about forest ownership on the levels they consider suitable. It was also found out that owning things or primary production in welfare states such as Sweden and Finland is not considered a very potential[1]

The original research plan was based on an assumption that stories would create value for companies. They were formulated as non-falsifiable hypotheses. Because none of the companies from forest planning, furniture, pulp to sawmilling did not consider ideas worth trying empirically, answers to the original research hypotheses (or proposals) should also be considered as suggestions.

Answering the original research problems

Original research questions were presented in a form of non-falsifiable hypotheses. This made it impossible to reject or supporting them based on empirical research. Therefore, the answers should only be taken as suggestions:

> H1: Service-dominant logic (SDL) enables to identify justified suggestions to connect forest-bioeconomy actors in a novel way allowing them to co-create value that is beneficial to the sustainable and profitable business.

H1 was related to service-dominant logic. It has been cited as "a paradigm shift in marketing" and it is about focusing less on products and production and more on creating value with customers. It emphasizes that

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[1] The case might be different in more exotic circumstances that easily allow consumers to feel like being philanthropists and pay 20 cent premium for that experience. For instance, a story about a woman who gets a possibility to start a company to grow coffee and by that way, to participate developing the society is has potential. Instead, a story about western IT-consult who has inherited a forestland and would like either to sell wood for a better price than pulp companies are ready to pay, or to keep it as it is.

value is created in interaction with two or more parties. It is not produced by one and then destroyed by another – which it the traditional approach to production and consumption.

The forest bioeconomy sector has been successful in creating value by transforming wood into a variety of products, branding them and transporting them to consumers. It is very concrete activity and it is creating economic value. Further, it is a quite well established construct. This means that making any changes to it would cost. Several practitioners working in the industry were asked to participate in developing their service assortment to find underutilized connections such as bringing forest owners and consumers by telling more about the production or growing wood. However, this was not found to be a novel nor interesting approach to them. Consequently, the found no reasons to make changes to their current service assortment. Further, SDL as it is does not provide any theoretical justifications why making a new connection or trying to add wider values in the existing services per se would be profitable business. Therefore, it would be recommended to reject the hypothesis.

> *H2: Swedish and Finnish family forest owners and bio-product consumers are interested in the Nordic forest bioeconomy narrative and find each other's views tempting so that better narrated connections serve higher and wider values for them and for the business.*

H2 was connected with the previous one. Business representative did not consider that adding more information about forest owners would be interesting. Any justified reasoning why forest owners would start to tell such stories by themselves was not recognized. Indications about consumers becoming interested in primary production were not recognized either. Therefore, Hypotheses 2 is suggested to be rejected. If there is a need to tell more stories about forest owners, the instances that consider it focal could start sponsoring social-media stars to create content about the topic.

> *H3: Nordic forest-bioeconomy companies' sustainability communication personnel consider SDL-driven narration suggestions plausible enough that they are willing to take those as part of their international customer and stakeholder communications.*

H3. The challenge that the topic was not generally considered interesting in the industry was repeated with H3. Those companies who were willing to discuss the topic considered that the topic was marginal to them and would have significant value potential. They also used narrations in their marketing on levels they considered adequate. Based on SDL-theory, it was not justified to suggest any reasons how these narrations would have increased value beyond some marginal cases. Because any additional narrations were not considered plausible enough to be added to stakeholder communication, hypotheses 3 will be rejected.

> *H4: Through service design, value network actors in the Nordic forest-based bioeconomy can identify new value propositions, new collaborations, and updated communication activities that pave the way towards such Nordic forest-bioeconomy movement that fosters inclusiveness, re-orientates gendered practices, and potentially sustains the competitiveness of the industry in longer run.*

H4 There are not barriers to using service design methodologies for testing and developing novel value propositions. It is important to develop the value propositions together with companies already from the beginning so that value potential would be evaluated by the firms. Service design methodologies such as ones used in information system sciences are highly recommendable. For instance, design-science research methodology might provide new perspectives. In these kinds of approaches, research questions originate from discussions between actors actually having concrete problems to be solved and researchers proposing concrete, testable solutions that are justified by literature, outcomes tend to be concrete.

There may be some mismatch between the values of urbanizing forest owners and the services offered to them. However, when the problem becomes large enough, it will be fixed. For instance, urbanized female

forest owners want to treat their forests slightly differently to the traditional farmer-forest owners. When there is enough demand, one forestry company starts to tell stories and provide services that are aligned with the new problem – and the problem becomes irrelevant. Another way has been found to solve the challenge related to mismatching values: private forest owners have also started to sell their estates to institutional investors.

2. If the work has resulted in publications – attach a reference list.

Next, the focus of the research was changed into service development with organizations had concrete needs for service development. The first was made in the context of work wellbeing and it was based on an assumption that some of the health benefits could be gained by having a short break in a virtual-reality forest. This was confirmed. The second article was first trials to apply software development methods to forestry service development. Because of the limitations related to that paper, third paper (currently as a manuscript) was written to define a service-development process of another forestry service and simultaneously developing theories related to expert service sales. Data for the last paper was collected during the pandemic when people were restricted to go out and it was conducted in collaboration with a startup providing restorative breaks in virtual forest environments. The last paper is also still on the level of manuscript. After rejecting the original research questions and when searching for relevant new ones, two master's theses were published. Both of them are inspired by behavioral economics research to understand what kind of risks forest owners feel when making decisions.

Research articles:

Mattila, O., Korhonen, A., Pöyry, E., Hauru, K., Holopainen, J., Parvinen, P. (2020). Restoration in a virtual reality forest environment. Computers in Human Behavior, 107, art. no. 106295. DOI: 10.1016/j.chb.2020.106295

Holopainen, J., Mattila, O., Pöyry, E., Parvinen, P. (2020). Applying design science research methodology in the development of virtual reality forest management services. Forest Policy and Economics, 116, art. no. 102190. DOI: 10.1016/j.forpol.2020.102190

Mattila, O., Pöyry, E., Parvinen, P., Holopainen, J., Tuunanen, T. (2021) Rocking the Process: Towards Collaborative Service Designs Using VR Technology. (to be submitted in 2021 to Journal of Service Research)

Mattila, O., Holopainen, J., Parvinen, P., Pöyry, E. 2021. Elements of restorative breaks in virtual forest. To be submitted in 2021 to Environment and behavior.

Masters theses:

Mäkelä, P. (2021) Uncertainty and regret in forest owners' decision situations.

Wärnelius, A. (2021). Värdeförluster i skogsfastighetsmarknaden – Hur det kan undvikas genom implementering av en individuell sälj-approach.

3. Description of how the grant has contributed to competence building that will facilitate and strengthen long term collaboration between Finland and Sweden.

Being physically located in Umeå was a good opportunity to getting familiarized with differences in work culture. Unfortunately, a pandemic shortened the period and only six months were finally spent in Umeå whereas the original plan was to stay there for twelve months. I was lucky to find a room in a commune of Swedish students and was integrated into a group of students focusing on pedagogics who were extremely helpful and encouraging when I was developing my everyday skills in Swedish.

During those six months, it was found out that the majority of SLU-people working on marketing or any other topics close to this project were located in Uppsala. My Swedish skills did not reach the level of academic discussions but one Master's theses in Swedish was supervised.

4. Description of research areas being started or strengthened at the departments in Finland and Sweden.

Challenges in finding people with aligned research interest was slightly difficult. However, two joint funding applications were submitted during the project. The most interesting new openings were related to new service-development practices borrowed from information system development and applying the approaches used in behavioral economics in the forest sector. Both of the new openings need to get pushed forward.

5. Description of how the grant has contributed to strengthening the forest sector in Finland and in Sweden.

It would be slightly exaggerating to claim that project would have contributed to strengthening the forest sector in Finland and Sweden. The new openings may contribute to the development of the sector in the future.

6. Description of communication with relevant stakeholders and end users.

The results of the project were presented in a research seminar the University of Eastern Finland in 17.2019, IUFRO WG 5.10 Online Conference 28-29 September 2020 and Research Seminar: ValueConnect in Forest Bioeconomy that was also targeted to audience beyond academic research. During the project, multiple discussions with forest bioenomy actors were conducted. They did not result in these actors to agree that value propositions form using SDL-driven narrations would be valuable, which was also a finding.

7. Financial accounting

Kostnadssammanställning Value Connect	
Löner	413 243
Osmo Mattilas arbete i Finland	1 350 315
Resor, konferenser, representation	43 903
Indirekta kostnader	192 542
Totala kostnader i projektet	**2 000 002**