WP4 - Raidlight : open source hardware and user centricity: the case of Raidlight

## Authors: Nadege Rochat, Laetitia Thomas

Possible conferences and journals to:

http://www.designconference.org/

# Intro:

This paper will examine the shift between firm led-community management to open source hardware innovation. Using a XXX focus group/ mixed methodology, cluster analysis the value proposition design tool first on a group of open source product development , this article will analyse the firm Raidlight initiative to build on their existing community interaction and share the designs of their token Responsiv Backpack line in an Open Source Product development (OSPD) (Bonvoisin *et al.*, 2017) fashion. The results of the analysis will be reviewed and recommendations provided to the firm.

**The value proposition canvas (**Osterwalder and Pigneur, 2015**)** is a pug-in tool to the business model canvas that aims at evaluating the match between the targeted client profile and the company’s new or existing value proposition. The client profile is defined by client’s functions, their pains and gains. The clients’ functions are the jobs that the target customers are seeking to fulfill. In the case of Raidlight, these customers are seeking to train for trail running. Their pains are the experiences they could live before, dur­ing, and after getting the job done; their gains are the benefits they expect, or would be enchanted by. This canvas can be used at any time to check the accuracy of customer knowledge. In this particular context, the canvas was made with the help of the Raidlight community manager, who has three years’ experience managing the site’s forum and being present during trail races.

# Context:

## Theory: the academic mapping of enterprise-led open source product development

-definition of user: Users, as we define the term, are firms or individual consumers that expect to benefit from using a design, a product, or a service (Baldwin and von hippel, 2011)

Since Chesbrough coined the term open innovation in 2006, more and more enterprises are drawn to seeking external collaboration in order to minimize R&D costs, attract and retain key talent. Open innovation sounds like a good idea to companies. But terms such as “Open Source Product Development” (OSPD) (Bonvoisin, *et al.,* 2017), or “Open collaborative innovation” (Baldwin and Von Hippel, 2013) appear much more nebulous or like pedantic academic abstractions and business owners can fail to see their implications. Moreover, the notion of “openness” used is misleading, because open innovation is an enterprise-driven and controlled process of opening-up knowledge flows. Whereas open collaborative innovation, which is the concept behind OSPD, posits that all information “related to the innovation is a public good— nonrivalrous and nonexcludable” (Von hippel, 2011). In essence the challenge of the open source hardware or libre hardware approach is that building plans are rendered public, transparent for anyone who wishes to see them and their bill of materials (BOM); replicable and accessible, meaning that anyone may reproduce these designs or modify distribute, make, and sell the design or hardware based on that design*[[1]](#footnote-1)*. The studied benefits of open source hardware done in a collaborative fashion are amplified, more effective, faster, cheaper and more efficient innovations (Bonvoisin et al., 2017, Thomas and Samuel, 2017) and that approach is usually completely at odds with a competitive, niche sector such as a sporting goods.

The exception being that the trail running community of practice and the OSPD one function in a similar fashion and have the same goals: virtual and physical interaction to learn and teach each other new skills, to become empowered through their practice, and the satisfaction of belonging to a community (Rochat et al, in press; Thomas and Samuel, 2017; Li and Seering, 2017, Unterfrauner *et al.,* 2017). As shown by Simpson et al. (2014), the sense of belonging to a community that gathers people who take on extreme challenges (i.e., long distance running in extreme environments) is a salient characteristic of the experience of being a trail runner. Furthermore these runners tend to train by themselves and often rely on they peers, websites or blogs to find information regarding training and to share their experience (Krouse et al. 2011). In addition, by analyzing the contents of forum discussions, Rochat et al. (in press) showed that runners had a careful approach of the questions regarding health and training habits and are concerned with developing a healthy athletic practice. Consequently, a community forum managed by a brand may have a structuring role in supporting trail runners’ autonomy in terms of race preparation, safety and personal achievement. In this context, it seems reasonable to assume that such a community would be likely to participate in an OSPD project, as runners are highly committed to the development of a sustainable approach of their sport.

In innovation management literature business models surrounding open source hardware is still considered a new frontier. Both Thomas and Samuel (2017) and Pearce (2017) distinguish three main types of value creation: (1) the DIY, (2) the kit and the (2) final product options. In a pareto-like equation, revenue streams will mostly come from the sales generated from the kit and final product options; the final product option’s margins being more lucrative in terms of margins and the amount of people that can be reached. However, the heart of the value creation is the DIY option that enables community members to access, replicate and modify the design files. These modular offers present a full range of products and services to gradually expand markets less technologically saavy users (Pearce, 2007, p.10). According to Jonathan Minchin, the coordinator the Barcelona Green Fab Lab, open source hardware holds the promise of going mass manufacturing what is average to create something optimal and unique for each user, which is something that is of interest to the very niche sector of trail running athletes, albeit little evidence on this question. Nevertheless, according to a study on perceived comfort in cycling, the question of comfort relies on complex links between the cyclist behavior and feelings, the properties of the bicycle and the environmental factors. Taken together, the interactions of these factors suggest that there are numerous opportunities for customized design that meets athletes’ needs (Dorey & Guastavino).

The next question for business owners therefore is, “what to open, what is an appropriate strategy for gradual openness where risks are limited and benefits increased?” Alexander Lang in a study on 20 manufacturing companies in southern Germany has researched (1) “how firms can open up their R&D processes for competitive advantage; (2) “what is the optimum point of openness in the R&D process” and (3) how the openness as a strategy for product innovation depends on the characteristics of an open organization. Indeed, OSPD as defined by Bonvoisin et al., (2017) is more complex to implement than open innovation, or open source software (Sanguinetti, 2017), it can only be achieved in steps coupled with an organizational strategy geared towards openness.

## The brand Raidlight: it’s competitive, strategic and innovation context

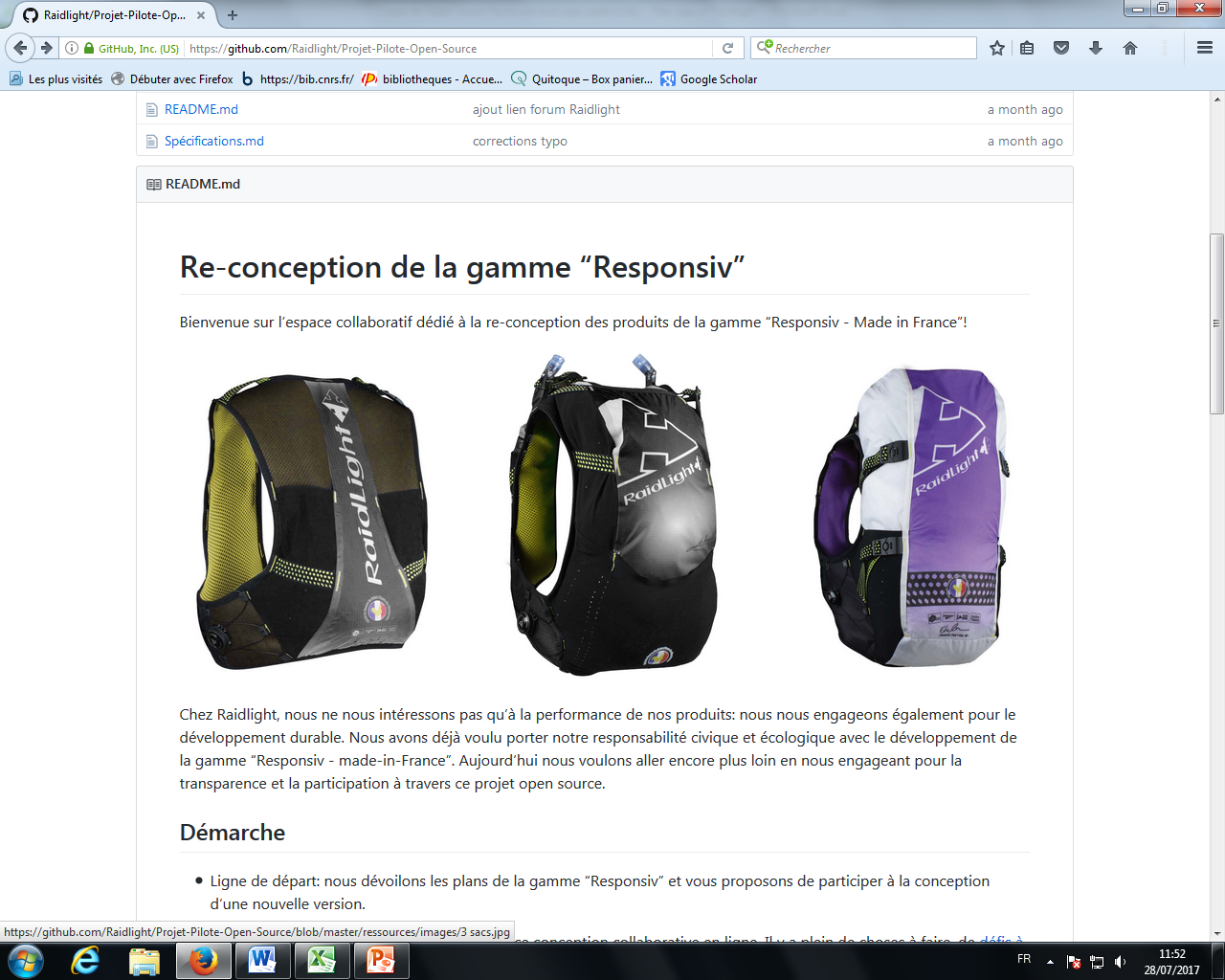
Starting in March 2016, the Saint Pierre de Chartreuse based Trail Running company Raidlight joined the Open! research project, financed by the French ANR and the German DFG, which aim is to understand, model and provide concrete tools to help innovation communities practicing open source product development. Raidlight since the inception of the brand and the fact that its founder, Benoit Laval, is himself a trail-running athlete, has always had an active community of practice. In the field of trail running, a community of practice encompasses a multiplicity of individual experiences that interact on discussion forums around the broad topics of training and health in order to enhance their own athletic performance (Rochat, *et al.* 2017, p. 2). These discussions can be considered as (1) a virtual meeting point to foster a sense of community (Babinski et al., 2001 cited in Rochat et al., 2017), (2) a marketing tool for developing a consumer loyalty program in an environment where the brand is present and can monitor experience sharing (Rowley et al., 2007; Sicilia and Palazón, 2008; cited in Rochat et al., 2017), and (3) a tool for product innovation thanks to ongoing dialog between a designer and community members (Füller et al., 2007, cited in Rochat et al., 2017). Each month the R&D team and the executive committee select themes that the community manager then shares on the company’s forum such as “how do you feel about the straps of such backpack? What could be enhanced or what could be done to be more efficient in your practice? What problems do you have?” The community members then react and provide their own personal experience. The role of the community manager is to prioritize the most salient themes for feedback to the R&D team. This first level of analysis of forum discussions enables to characterize the salient issues emerging from the trail runners’ experience of equipment use. Furthermore, the analysis of these contents may be of interest for the R&D engineers who may identify relevant areas of product development. Notably, such an inductive approach has already been used for the elaboration of a field test protocol of carrying and hydration systems in trail running (Rochat, Hauw, & Seifert, submitted). Je peux developer les résultats si nécessaire mais on risque de sortir du scope du paragraphe

This approach can be blanketed as crowdsourcing: outsourcing a task to a “crowd” in the form of an open call (Afuah and Tucci, 2012) and arguably was in the early stages. Crowdsourcing is seen as a closed innovation model, because the people contributing to the solutions do not ultimately have access to them: the outputs are closed and owned by the sponsor (Howe 2006, Pisano and Verganti 2008, Jeppesen and Lakhani 2010, cited in Von Hippel, 2011). But the founder of Raidlight managed to combine a number of factors to make this phenomenon much more interesting and a testing ground for potential strategic advantage. First, he actively sought out collaborations with academics with a number of universities (University of Rouen, University of Lausanne, nous?) to work on issues such as how runners collectively look for solutions that help them adapt to issues that emerge during actual practice (develop). Second, in the extremely competitive sector of global sports apparel, Benoit Laval in collaboration the Sporaltec cluster and ANT-Tex, a lab for new textile technologies, took on the unlikely bet of moving part of his production back to the brand’s headquarters in Saint-Pierre-de-Chartreuse. A year later, the “made in France” line was a definite success. The number one rule of the line being: streamlining assembly time in order to be able to keep producing in France, using cutting edge technology and materials. This new partnership with the members of the Open! Research team comprising conception, optimization, production and innovation management labs (GSCOP, CERAG, Berlin TU) grated on his nerves with its scientific lingo. After a three day workshop in May 2017, Benoit Laval decided to go a step further than what the Open! Project members asked of him. Rendering the plans of a token backpack accessible online was not enough; he decided to leverage the strengths he created around his brand: his trail running stations, his own site factory, and his community. The building plans would be rendered public on the Github platform, but he’d invite the best contributors for an immersion day to come on-site to prototype their innovations with the help of his athletic trainers, designers and factory technicians. During the morning, the guests would come test out the Raidlight equipment and have a run with Raidlights athletic trainers, and during the afternoon, they’d get to work with stylists and textile technicians in order to create their prototypes. The innovations, would then be shared back online, which would result in a benefit larger than just a single product, but rather a planned and integrated one bridging the gap between the ideas stemming from the community and the engineers capable of implementing them.

## Scope of the open source hardware pilot project:

The open source hardware/design community-based product development project’s objective is to redesign three products of the company's portfolio. A project space was set up in GitHub[[2]](#footnote-2), rendering the plans of the existing Responsiv line accessible and

Préciser que cette gamme est made in France et qu’au delà des améliorations à apporter aux produits, il y a aussi la question des coûts de production pour pérenniser la démarche. Dans ce contexte, la communauté peut intervenir pour trouver les adaptations optimales entre technicité du produit (i.e., leur besoins en terme de performance) et coûts de production (i.e., en termes de ressources humaines, donc du personnel et des coûts des matières).



### Planned Implication of community:

As the ongoing interactions with the community were based on a crowd-sourcing approach, the OSPD project was conceived as an extension/continuity to the typical crowd-sourcing actions undertaken so far. The aim of this OSPD was to make the plans of the product fully accessible to anyone and solicit the community for the conception of a new version.

The first step consisted of presenting the OSPD pilot project to the community on forum, by (1) briefly explaining the underlying concepts of open source design, (b) presenting the scope of the project, which was entitled “Let’s sustain together the Made in France” and (c) introducing the GitHub platform, which was the virtual workplace on which the OSPD activities are currently conducted.

Three models of trail running vests from the same range called “Responsiv” (Figure xx) were selected for the OSPD project. The first model was a 3-liter vest, the second model was a 10-liter vest and the third one was a 25-liter vest. All had pockets on the shoulder/pectoral straps and provided the possibility to carry bottles (soft or rigid bottles) on the shoulder straps.

Next, we posted the « patterns» and « gammes de montage » on the GitHub platform by explaining the current issues engineers were dealing with, such as the issues of the layout of the pockets, the size of the straps, and the general design of the vest. For each issue participant have the possibility to propose his/her idea by editing the « patrons » and « gammes de montage ».

Github

Forum

🡪 Ainsi Raidlight deviendrait un tiers-lieu pour le maquettage et la customisation en extension à l’activité numérique qui se passe sur le site communautaire et GitHub.

All-in one immersion day.

# Research gap:

User-centric business model innovation. How user centricity, open source hardware and business models coincide.

The central proposition motivating this paper is how a user-centric company such as Raidlight can apply OSPD to create and capture value.

The research questions which this paper seeks to answer are the following:

RQ1-Qu’est ce qu’une démarche en open source hardware venant d’une entreprise peut nous apprendre sur les besoins et attentes des communautés d’innovation, et la gouvernance de celles-ci ?

RQ2-Is Raidlight’s OSPD initiative helping them address their customers’ needs?

# Methodology

Qualitative exploratory research

Case-study (Hlady Rispal, 2002; Yin 2009)

Vise a mettre en lumiere un decision ou un ensemble de decision, l’origine des decisions prises, la façon dont elles ont été mises en oeuvre et les résultats obtenus Hlady Rispal, 2002

The value proposition design method (Osterwalder *et al.,* 2015) was used as a tool to enhance user-centric insights in order to develop new value propositions products, business models. It appears like a valuable tool for Raidlight, because they already have a very effective community management in place to moderate the community in terms of: athletic training, technical equipment expertise and IT knowhow. Therefore possibly the same strengths could be leveraged to map-out the fit between an open source hardware initiative led by Raidlight and the desires of the active trail running community of practice.

The initial workshop was comprised of the Raidlight community manager because of her frequent contact with the customers and thus her deep customer knowledge; and of 3 members of the Open! Project team, including two academics with senior knowledge on OSPD. In this instance the experts helped conceptualize the themes, which the community managed informed and ranked, thanks to her 3 years experience managing the company’s forum. After which, the results of the value proposition design were shared on the company’s forum to check whether they were relevant with the active community members, how they would prioritize them and if new concerns emerged. And have statistical analysis of the deviance between the workshop prioritization and the community’s.

A multisourcing cluster was devised using XXX software, in order to map out the value proposition design from the perspectives of the company, the community, and experts (academic and consultants, include Jeremy).

# Findings

Similarities and differences between workshop and community feedback findings

*Insert comments from the forum*

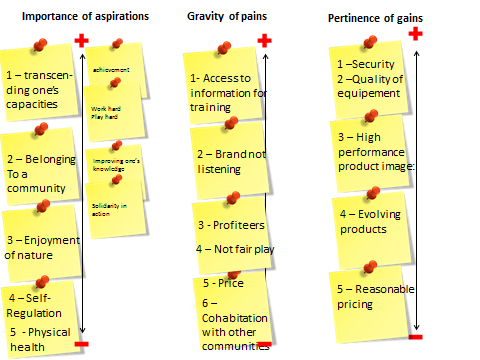
**

Figure 1: Client profile results of the initial workshop with the community manager and experts in OSPD

## Workshop findings:

### Client profile: aspirations

From the workshop with the community manager and experts on OSPD the client profile aspirations were ranked in the following order. First came the notion of (1) transcending one’s capacities with the underlying values of achievement and the ethos of “work hard play hard”. (e.g., « Ca fait 3 ans que je cours régulièrement avec des haut et des bas. Inscrit dans un club pour progresser ( chose qui fonctionne ), principalement trail car aucuns plaisir sur la route. J'aimais bien faire des raids multisports qui demandent beaucoup de ressources et rester en pleine nature à en chier, épuisé, au top, au sommet de ma forme, en bas du bas, démoralisé, à vomir dans les fossé et franchir la ligne d'arrivée après X heures, c'est cela qui me plait. Donc c'est tout naturellement que je me tourne sur l'ultra pour varier les plaisirs. »

Secondly came the notion of belonging to a community in order to improve one’s knowledge, but also through the emergence of solidarity in action; which an extreme activity such as trail running becomes a real resource in times of psychological strife and need, as shown in runners’ stories of race achievements or withdrawals (Rochat et al., 2017; Antonini Philippe et al., 2016). Third came the enjoyment of being immersed in nature, because trail running by definition places the runner in self-sufficiency relationship with changing environmental conditions (e.g., “for me trail running is the perfect activity to enjoy nature and landscape and challenge myself at the same time”). Fourth the notion of self-regulation appeared (e.g., “I started trail running because I was free to train as I wanted and I was bored of doing sports in a club, with a coach”. Trail runners, usually do not belong to a club or use a coach (Krouse et al., 2011). Breaking from a conventional sporting activity they seek to master their own practice in terms of setting their own running practices, rest schedules, and types of runs. The aspiration that was ranked last was physical health. Physical is transversal value to athletes, which need to maintain their health for their practice, but trail running is such a demanding sport that athletes will subject themselves to extraordinary strain. In case of temporary injury, health will rise to greater importance.

### Client profile: problems

The most acute problem noted was access to accurate information in order to train effectively and securely. As mentioned this is particularly true for trails runners, who train solo. The second identified issue was brands not listening to their customers’ needs, which brings about a feeling of being excluded and used by the brand (e.g. “I sent an email, but I haven’t received any answer yet. This upsets me as I’d expect that Raidlight was listening to its customers”). A tension exists with community members who transcend the notion of sheer customers (e.g., “I do not understand the strategy here, I feel the brand just does it or marketing and commercial purposes. At the same time, that’s how it works...”). They feel their engagement through inputs is an added value to the brand and don’t want to have their data be solely instrumentalized for commercial purposes, posing threat to their individual liberties. The third issue is linked: the concern that the brand will not be fairplay (e.g., “the brand uses us for advertising”). The perceived issue being that the brand is not abiding to their mission statement of “sharing the trail running experience” ,”building a community”, and producing in a “sustainable and ethical manner”. Rather the brand is just crowdsourcing the community input for financial profit.

### Client profile: benefits

The most sought after benefit is the security, reliability and quality of the equipment in order to help them attain their performance goals. This notion is paramount, and will even lessen existing environmental concerns in a community sensitive to sustainability due to the playground in which they practice. Next is the high-performance product image, which needs to be as ergonomic and light as possible for optimal comfort. Oftentimes the perceived transparency of the equipment is seen as a positive attribute: the fact that the runners won’t even feel their backpack (e.g.,“this backpack is very comfortable and very light. Indeed I even felt that I was wearing nothing!”). The notion of evolving products comes third. The key characteristic being the adaptability of the product and capacity to the brand’s to constantly innovate on a given line thanks to the community’s input: “I’m really happy because when I opened the packet (le colis) I saw all the improvements made on backpack and that’s great, I even noticed they added the little straps as I had suggested. They also did larger pockets for the bottles. Thanks Raidlight for having listened to us and for trusting us.” The product should also offer the possibility for customization, making it more and more adapted to the specific needs of the athlete: “Hi guys, I’ve just customized the pockets and the straps of the backpack so that I can carry my poles when I don’t use them. Here are the pictures, I hope these will be helpful for Raidlight”. . The notion of reasonable pricing appears last. Raidlight’s pricing strategy is not entry level. Customers perceive paying a right amount in exchange for the underlying value, R&D and proximity approach of Raidlight towards its community, its customers and its athlete’s sponsorship. The made in France production facility, is seen as a real asset in coherence with the brand’s commitment towards excelling and innovation in serving its community.

### 

Figure 2: Raidlight's products and services: results of the initial workshop with the community manager and experts in OSPD

### Value proposition: product and services

### Value proposition: gain creators

### Value proposition: solutions

## Match client profile and offer, with OSPD initative

Oui opportunité pour avoir des produits le plus optimum pour leurs besoins. Les aspiration de com. Vont au dela du produit, mais vont à des choses plus larges. Etude porté sur d’autres aspirations, Approche holistique de la pratique, mais comme marque propose des produits, et dans contexte marque qui propose OSPD, on est en mesure de proposer des pistes d’amélioration. Les deux demarches sont parallele, donc comment une marque se situe dedans.

## Similarities and differences between workshop and community feedback findings

## Current reality of OSPD initiative

# Discussion

**Qu’est ce qu’une démarche en open source hardware venant d’une entreprise peut nous apprendre sur les besoins et attentes des communautés d’innovation, et la gouvernance de celles-ci ?**

***-Appropriation du projet à deux niveau***

-en interne

-au niveau de la com

=> ciblage des leads users

Recommendations

-potentialiser leads users en internes

-com. Qui émerge qui se caracterise par sa contribution au projet OSPD. Aujourd’hui pas émergent.

Nadège Rochat : Etienne Wenger, 2002, com de pratique, joint enterprise. Aujourd’hui pas de joint enterprise. LPP participants peripherique qui se joint au projet, no one in the core group.

Mutual engagement. Aider les autres, partager ton experience, contribuer… Là c’est absent. Pratical implication

***-Analyse plus fine des lead-users.*** Engager personnes qui vont beneficier le plus des amélioration approche Von Hippel.

-divergence entre com de trailer et com. D’experts textile,

## How can Raidlight use OSPD to create, capture and distribute value?

In answer to our first research question, we seek to explore whether the community’s contribution effectively creates value for Raidlight. At this stage it is uncertain whether an active community of practice that effectively uses a brand’s forum for information sharing on training and health , will be able to shift/ add focus to product innovation in an open collaborative innovation fashion. Whether the trail-running community will give pertinent contributions to the design of the backpack is an open question. User-centered innovation is becoming both an important rival to and an important feedstock for manufacturer-centered innovation in many fields (von hippel). However the characteristics of the textile industry are very particular. Namely the cutting edge technological equipement required and very exclusive textile engineering knowhow. The question remains of appropriate broadcasting of the OSPD project. The idea was to first reach lead-users such as existing trail runners, then to extend the invitation to textile design and sporting equipment students. However, the realities of the textile industry are so competitive, that to have effective contributions, suppliers and competitors would need to be invited to participate as well, and that an “all inclusive day at Raidlight” may be enticing to new entrants and stakeholders, but not sufficiently to get the input from established stakeholders. A lot of research on innovation, states that innovation occurs on production sites (Thomas, 2012); and is triggered by facilitating unexpected encounters (Suire, 2015) (Besson, 2017), which is an approach that is strategic in driving innovation ecosystems and third places. Furthermore, Living Lab methods foster interaction among persons of diverse professions and activities. Frequently, it’s during these happenstance encounters that the most novel ideas appear

## Is Raidlight’s OSPD initiative helping them address their customers’ needs?

Through our research we were able to identify several similarities between trail running communities and OSPD. First is the extension of value creation, which is noteworthy for companies. As mentioned previously, “open-washing” is a detrimental strategy for companies, which risk losing the support of their communities, if they decide, once the innovation has taken place to close the access to the plans. In a similar fashion, trail-running community members see their contribution as intangible value, and resent being used for crowdsourcing purposes leading to financial profit.

Product image: needs to be as ergonomic and light as possible for optimal comfort. Oftentimes the perceived transparency of the equipment is seen as a positive attribute: the fact that the runners won’t even feel their backpack. This ties back to Benoit Laval’s production rule of making the product as light as possible and to lessen the assembly steps. The final product is interesting not for what has been added, but by what has been streamlined and removed (quote XXX)

Product evolution: The notion of evolving products comes third. The key characteristic being the adaptability of the product and capacity to the brand’s to constantly innovate on a given line thanks to the community’s input. The product should also offer the possibility for customization, making it more and more adapted to the specific needs of the athlete. Beyond optimal fit for optimal use, the promise of OSPD is to counter the effects of programmed obsolescence. Through the possibilities of digital fabrication, a product can constantly be upgraded, personalized; thereby its end of life is extended.

**Pricing strategy.** The OSPD initiative promises to be a real value creator. Indeed, the value of the Made in France facility will only be if lead OSPD contributors are invited to directly work with the engineering and design team. This approach is really novel. Indeed, the extension from field practice to online activity opens opportunities to deepen our understanding of a given activity and ways of developing. And vice versa. Creating a physical space for the best contributors to try out trail running gear and then reify their designs with the help of expert trainers in sports and designers is promising. (cf. insert Nadege’s paper on field practice enriching online activity) For example, using the forum to inductively analyze/characterize the main issues reported by runners is a relevant preliminary step for designing a field test protocol, because it enables to specify the variables that must be further investigated (Rochat, Hauw, & Seifert, Submitted). Such an approach shows the mutual enrichment between the forum analyses and in-situ protocol and also proposes new perspectives for the company to develop an efficient research method within its R&D program. This is inline with The work of the economist, Eric Von Hippel, for whom using technological innovations creates their economic, social and even cultural value (Von Hippel, 2005), has been particularly inspirational. Following his line of thought, society ought to be able not only to reroute innovations, but also to co-produce them in order that they become richer and more original than those initially imagined:

# Recommendation

-Engager communauté de pratique

-Identifier leads user

-Nurture the middle-ground

# Limits of research

Longitudinal pour reveler pertinence. A l’instant T“A great Value Proposition with a great “fit” on paper is just an untested fantasy” (Osterwalder and Pigneur, 2015). -A number of criteria were chosen to evaluate the fit of the OSPD offer to the community needs (insert here), and these would show appropriate fit with Raidlight’s existing customer, but a longitudinal study will reveal appropriate market and business model coherence.

Future research: Lance.johnson@outdoorlab.fr, Stephanie, Benoit

how can Raidlight use OSPD to create, capture and distribute value?

# Conclusion

Les deux approaches tres similaires en termes de valeurs et de méthodes, mais la juxtaposition des communautes souligne la complexité propre à l’open source hardware.

# References

Dorey, J., & Guastavino, C. (2011). Moving forward: Conceptualizing comfort in information sources for enthusiast cyclists. *Proceedings of the American Society for Information Science and Technology, 48*(1), 1–9. <https://doi.org/10.1002/meet.2011.14504801187>

Holt, N. L., Lee, H., Kim, Y., & Klein, K. (2014). Exploring experiences of running an ultramarathon. The Sport Psychologist, 28(1), 22–35. <https://doi.org/10.1123/tsp.2013-0008>

Krouse, R. Z., Ransdell, L. B., Lucas, S. M., & Pritchard, M. E. (2011). Motivation, goal orientation, coaching, and training habits of women ultrarunners: Journal of Strength and Conditioning Research, 25(10), 2835–2842. https://doi.org/10.1519/JSC.0b013e318204caa0

Rochat, N., Hauw, D., Antonini Philippe, R., Crettaz von Roten, F., & Seifert, L. (2017). Comparison of vitality states of finishers and withdrawers in trail running: An enactive and phenomenological perspective. *PLOS ONE*, *12*(3), e0173667. <https://doi.org/10.1371/journal.pone.0173667>

Antonini Philippe, R., Rochat, N., Vauthier, M., & Hauw, D. (2016). The story of withdrawals during an ultra-trail running race: A qualitative investigation of runners’ courses of experience. *The Sport Psychologist*, 30(4), 1–43. <https://doi.org/10.1123/tsp.2016-0039>

Li, Z., Seering, W. Why open source? Exploring the motivations of using an open model for hardware development. In Proceedings of the ASME 2017 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference IDETC/CIE 2017. August 6-9, Cleveland, Ohio, USA

Rochat, N., Hauw, D., Gür, G., & Seifert, L. (In press). Understanding trail runners’ activity on online community forums: An inductive analysis of discussions topics. *Journal of Human Kinetics*

Rochat, N., Hauw D., & Seifert, L. (submitted). Enactments and the design of trail running equipment: An example of carrying systems. *Applied Ergonomics*

Sicilia, M., & Palazón, M. (2008). Brand communities on the internet: A case study of Coca‐Cola’s Spanish virtual community. Corporate Communications: An International Journal, 13(3), 255–270. https://doi.org/10.1108/13563280810893643

Simpson, D., Young, G., & Jensen, P. R. (2014). “It’s not about taking the easy road”: The experiences of ultramarathon runners. The Sport Psychologist, 28(2), 176–185. <https://doi.org/10.1123/tsp.2013-0064>

Unterfrauner, E., & Voigt, C., 2017. Makers’ ambitions to do socially valuable things. Presented at the European Academy of Design Conference - EAD17, Rome, Italy.

Reference List from Jessica Schmeiss

Chesbrough, H., & Rosenbloom, R. S. (2002). The role of the business model in capturing value from innovation: evidence from Xerox Corporation'stechnology spin-off companies. Industrial and corporate change, 11(3),

529-555.

Demil, B., Lecocq, X., Ricart, J. E., & Zott, C. (2015). Introduction to the SEJspecial issue on business models: business models within the domain of strategic entrepreneurship. Strategic Entrepreneurship Journal, 9(1), 1-11.

Gassmann, O., Enkel, E., Chesbrough, H.W., 2010. The future of open innovation. R&D Management 40 (3), 213-221.

Gassmann, O., & Sutter, P. (2016). Digitale Transformation im Unternehmen gestalten: Geschîftsmodelle Erfolgsfaktoren Fallstudien. Carl Hanser Verlag GmbH Co KG.

Sandulli, F. D., & Chesbrough, H. (2009). The two sides of open business models. Available at SSRN 1325682.

Spieth, P., Schneckenberg, D., & Ricart, J. E. (2014). Business model innovation-state of the art and future challenges for the field. R&D Management, 44(3), 237-247.

Teece, D. J. (2010). Business models, business strategy and innovation. Long range planning, 43(2), 172-194.

Von Hippel, E. (2005) Democratizing Innovation. Cambridge, MA: The MITPress.

Weiblen, T.; Frankenberger, K. & Gassmann, O. (2013) The Open Business Model : Towards a Common Understanding of an Emerging Concept. In: 13th EURAM 2013 Conference, Istanbul.

Zott, C., Amit, R., & Massa, L. (2011). The business model: recent developments and future research. Journal of Management, 37(4), 1019-1042.

From Hendrik and Martina

(Bourdeaux; 2010) what's the reference for this?

Ind, N. and Coates, N., 2013. The meanings of co-creation. European Business Review, 25(1), pp.86-95.

Do you mean this book? Alexy, O. and Dahlander, L., 2013. Managing open innovation. Handbook of Innovation Management.

Meyer, M.H. and Mugge, P.C., 2001. Make platform innovation drive enterprise growth. Research-Technology Management, 44(1), pp.25-39.

Chesbrough, H., 2010. Business model innovation: opportunities and barriers. Long range planning, 43(2), pp.354-363.

Katz, M.L. and Shapiro, C., 1994. Systems competition and network effects. The journal of economic perspectives, 8(2), pp.93-115.

Cohen et al., 2000 what's the reference for this?

Von Hippel, E., 2005. Democratizing innovation: The evolving phenomenon of user innovation. Journal für Betriebswirtschaft, 55(1), pp.63-78.

Saebi, T. and Foss, N.J., 2015. Business models for open innovation: Matching heterogeneous open innovation strategies with business model dimensions. European Management Journal, 33(3), pp.201-213.

1. From the Open Source Hardware (OSHW) Statement of Principles 1.0 https://www.oshwa.org/definition/. [↑](#footnote-ref-1)
2. <https://github.com/Raidlight/Projet-Pilote-Open-Source> [↑](#footnote-ref-2)