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Opening Up for Managing Business and Societal Challenges

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“Opening Up for Managing Business and Societal Challenges”

Takeaways from WOIC 2019 industry sessions

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Acknowledgment

The authors would like to thank the contribution of the moderators of the Industry Challenges and the note-takers attending each roundtable of discussion. This white paper includes the precious contribution of their reports and reflection over the discussion held during the WOIC 2019. The authors also acknowledge the executives taking part in the industry sessions.

Research presented in this report is based on:

1. **Problem Submission**: Firms submitted corporate challenges. Problems were screened and selected.
2. **Problem Scoping**: Solomon Darwin conducted individual sessions with each firm and were further scoped by Henry Chesbrough to frame the challenge properly so that the details provided could easily solicit input from both OI researchers and practitioners.
3. **Problem Solving**: Input, feedback, and recommendations provided by a community of OI academics and practitioners across industries who worked in groups during a one-hour session per each challenge.

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“Open innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology.”

— Henry Chesbrough

Executive Summary

This report is the result of an in-depth study of the challenges proposed by five different organizations to the attention of the Community of the World Open Innovation Conference 2019.

Companies submitted their corporate general challenges to the WOIC Industry Chair for review and consideration for what may be of interest to the participants. These problems were further scoped by Solomon Darwin and Henry Chesbrough to frame the challenges to optimize interaction from participating practitioners and academic experts.

During the conference, each company has a 90 minutes session during which the associated corporate representatives briefly provide some background of the company and explain the challenge they are facing. The mixed group of practitioners and academics were organized into several groups facilitated by a moderator to guide the discussion along with a notetaker. The collected recommendations were then summarized and put into a white paper to benefit the company and its stakeholders. These recommendations do not represent full solutions, but rather suggestions and potential case study contributing to companies' efforts in addressing their challenges.

This report includes the following 5 different challenges proposed by 5 companies:

1. **SAP:** Conducting "Horizon 3" transformational experiments through learning fast/fail fast approaches
2. **Salesforce:** Expanding through the creation of ecosystems in new uncharted markets
3. **Ericsson:** Creating new business opportunities leveraging emerging 5G technologies
4. **PNO:** Overcoming bottlenecks that block the successful use of open innovation within organizations

The following four chapters report a detailed description of the discussions conducted during each industry session and the specific solutions emerged from the audience brainstorming and already briefly presented to the companies at the end of each session. Moreover, we provide a short presentation of more general recommendations that result from a cross-analysis of all the companies presenting their challenges at WOIC 2019, but go beyond them and can be considered by industry at large, and concern:

- a. Innovation Platform and Ecosystem
- b. Data and Other Infrastructures
- c. Understanding the Problems and Contexts
- d. Company Ambassadors



Challenge #1: SAP



Claus von Riegen, Head of Business Model Innovation, SAP

“Our engineers, when developing Spotlight, focused on the MVP, the product, they did not think much of how to sell it...”

Challenge

Customers are hesitant to run innovation experiments, which are necessary for SAP to validate and test new products and business models quickly. Customers rather associate SAP with continuous and adjacent innovation (Horizons 1 and 2). Additionally, SAP’s sales organization is neither skilled nor incentivized to position such innovation experiments. Moreover, to them, innovation experiments pose rather a risk (losing big deals, lack of interest due to typically small deal sizes, high uncertainty) than a chance (having an innovative perception, long-term opportunity).

How can open innovation initiatives be leveraged to conduct an ongoing strategy that combines the interests of the customer as well as the incentives of the sales organization? Please describe your proposed:

1. Process to accomplish this;
2. Mechanisms and resources needed;
3. Partnerships and alliances needed to counter or create the disruption to establish new markets, customer segments, products, and services.

Participants

- A. Moderators:** Ekaterina Albats (Stanford University); Isabelle Tyrasa (Fraunhofer IOF), Marisol Menendez (Spain Startup); Qinli LU (EPFL)
- B. Notetakers:** Sea Matilda Bez; Chiara E. De Marco; Gabriele Santoro; Olga Patel
- C. Practitioners from Industry:** Ali Tayebi (BGE mbH), Kim Hastrup (Danish Veterinary and Food Administration), Veronika Sagmeister (SAP), Julian Fieres (ZF Group); Italo Marconi (Connexia); Thomas Mehlkopf (SAP); Serena Flammini (Tesco); Massimo Mazzotta (Leonardo SpA); Marco Greco (Leonardo SpA); Ernesto Ciorra (Enel); Cemre Mutlu (PNO Group); Aurelien Commeureuc (SICPA)
- D. Academics:** Andrei Gurca (NEOMA Business School), Maral Mahdad (Wageningen University & Research); Chris Bush (IBI, UC Berkeley); Aline Martins (Knowledge Transfer Network UK); Francesco Sandulli (University Complutense of Madrid); Elena Giménez (University Complutense of Madrid); Angela Sansonetti (Luiss University); Isaac Lemus (UPM)

SAP Background

At SAP, transformative innovation experiments (Horizon 3), are pursued by entrepreneurial teams in a learn fast, fail fast approach. This requires new capabilities and business models. SAP is trying to combine the best of two worlds by leveraging a lean start-up approach in a VC set-up and by leveraging their advantage with regards to their large installed customer base. However, due to the high degree of uncertainty and the experiments-based approach, we see challenges.

Recommendations from the session

1. Internal - How do we position transformative innovation internally? How do we train, equip, and incentivize our sales organization?

SAP's current business model is based on a network of sales organizations. However, SAP pointed out the difficulties in persuading these vendors to sell the new innovative platform and even a fear of “cannibalization” among the current vendors. Besides, there is no time and no real resources to train these vendors. In this respect, the participants stressed several actions that SAP might implement:

- **Early internal communication between the R&D and the sales department.**

One of the roots of the challenge is to speak to the sales department about an emerging innovative product very early. So far, it looks like the sales team was not requested to work on these innovative solutions (as e.g. Spotlight) early enough, or even know the new products they need to sell. This is because, on one hand, the sales team tends to focus on the major, traditional products, which sell well and, on the other hand. After all, the internal inventors tend to be considered as intrapreneurs and are somewhat expected to think of the sales themselves. However, it is important to understand that people who develop the technology are not normally salespeople and not trained as salespeople. Reversely, salespeople do not have a technical background and need to be trained on what the new products do for their customers.

Remark: when dealing with the customer, sales organizations should talk to the R&D department and not the purchasing manager.

One way to concretely create this bridge between R&D and the sales department consists of involving the marketing department in “Killing the innovators’ ‘wrong’ ideas early enough.” A good example is Yahoo’s experience: they had a kind of a deadline when R&D teams or innovation teams are creating a new product, they had only 6 weeks to get approval by a marketing department. These two buildings (R&D/innovation and marketing) were so close so anyone from the innovation team could just run to the marketing department, pitch the idea saying “I need support on this, do you think it’s worth investing in it?” Then, if the predicted revenue on the idea (not even on a prototype) was not high enough, they would have killed the idea right away and move on with a new startup model, idea or a prototype.

- **Incentivize the sales force to sell the new BM product**

- Offer the new horizon 3 innovative solutions as a premium product that only their golden customers can access. The access of their clients to horizon 3 innovative solutions can become an additional argument in selling their current products. If they buy those, they will be involved as “golden customer” to new horizon 3 innovative solutions and drive the innovation toward their needs.
- Present the new product as an “add-on” to current bigger products. However, this requires that the new solutions are publicized in the customer training programs.

Remark: the add-on could be considered as small sales to leverage bigger ones later.

- Offer an “umbrella bonus.” Salesforce gets a bonus only if the salespeople sell current BM products and 10% of the new one.
- Use “competition” between salesforce. Salesforce can be incentivized with a competition on the percentage of sales related to the new BM product.

- **Hire new salespeople (the ones who focus on inventions only)**

Another solution to the abovementioned root of the challenge is to hire new salespeople, and make clear, since the very beginning, that it is their job to sell ‘small portions’ of not usual SAP’ products to whatever customers *they* find a good target, as well as to the larger accounts. It is important to incentivize this new group of people, to make them eager to pick-up little things and make them grow. Hence, if these “small” innovations grow the salespeople get more.

- **The internal high quota target can be SAP’s bottleneck.**

As SAP salespeople have usually very high quota targets, their interest in selling the new solution would not be high. Therefore, some participants propose to enhance the sales incentives to new-hired by lowering their quota targets for the first semester/year of work at SAP, so that they would more easily achieve their target by selling a small solution that expert salespersons would not be interested in selling. Typically, they should be evaluated on their ability to sell the new product as an “add-on” and not on their sold volume.

- **Involve internal business coaches**

As engineers are not necessarily entrepreneurs, involve a pool of business coaches, which would take the inventors by the hand, train them on how to do the hypothesis testing, how to do customer learning early on, how to do a customer clinic, etc.

2. Channels - How do we educate the market? How do we reach customers?

a) Start-up sandbox

Create an innovation platform (a physical forum) for industry innovations from customers, competitors, suppliers to network. This platform would favor the exchange of ideas, feedback, criticism, as well as the discovery of potential synergies. However, SAP needs to be careful and ask itself what platform participants get in return. It could be a customized product for them for free, or credit for being involved in its development (like “SAP innovation badge”).

Remark: *Angela Sansonetti (Luiss University) recommends to SAP to look into what is called the “human-centered business model” if they are interested in bringing in customers at an early stage (in the selection of idea stage).*

b) Create an SAP-independent brand for innovative solutions.

To overcome the issue regarding the sales organizations, several participants suggested creating an independent company with another name to fully exploit the potential of this transformative innovation. This company will be responsible for selling the new (or riskier) products. In this way, the product would be sold by qualified personnel able to understand the technical characteristics of the product itself. Moreover, the failure of the project would not imply any impact on SAP's reputation. Once the service reaches a high number of customers, the independent company will be reincorporated into the holding one, to avoid any process of cannibalization.

Remarks: Ernesto Ciorra (CIO – Chief Innovability Officer at Enel Group's) affirmed that it is important to hire new people for the new company, to avoid the “fear of cannibalization”. Current employees may have biases and therefore operate in a way that avoids cannibalization. In his words “*People can be biased. It is better to create independence in each unit. If you have independent management it is easier to test new things in different ways, without the fear of*

cannibalizing. After the success of the business, you should reintegrate the business into the corporations”.

In accordance, Francesco Sandulli stated, “we had a company that faced the same problem. The sales organizations did not want to sell the product, either because they were not incentivized or because they did not have the right knowledge about it. So, the company created a spin-off just to sell the product.”

c) Find ‘ambassador’ and incentivize them.

SAP could find “ambassadors” for the “new horizon 3 products”. They would serve as a translator in the communication between SAP and the customers, working on educating customers on the products. Nonetheless, several participants at different tables stressed that it is not enough to find the ambassadors, SAP also needs to incentivize them.

Concretely, the ambassadors could be:

- **The current customers:** SAP could incentivize them by giving them some % of the revenue generated by a new client to the current client that recommend and train the new one to use it.
- **External consultants and experts in the digital transformation.** SAP could train them for free or give these customers discounts if they use SAP products.
- **The suppliers:** SAP could pay suppliers to test innovative solutions or sell them to customers.
 - **Remark:** one participant argued that “Partnerships with suppliers could be the key to get closer to clients and test innovative business models.”

3. Customer Groups - Which customers should SAP address? Which user groups? In which situations? What are their incentives?

- a) **Customers’ intrapreneurs:** One of the ways to make SAP customers understand the new offering, which is different from the traditional SAP portfolio, is to approach like-minded people within customer teams – i.e. intrapreneur customers. They would be sharing the same kind of thinking and values and would understand (if not immediately accept) taking a risk, at least with a small-scale contract. Starting internally, with the intrapreneur customers, may eventually allow conquering the rest of the customer team.
- b) **Startups:** SAP could sell directly to startups as a B2B market, and get out of its comfort zone. This would lead to addressing customers different from the ones that it already has (Massimo Mazzotta, Leonardo S.p.A.)
- c) **Family & friends of SAP:** Another strategy is to first address the closest customers (or other players in the SAP supply chain) – e.g. those which are strategically close. It would make sense to select a maximum of three lead customers and create a minimum viable product (MVP) with them in exchange e.g. a certain percentage of discount for a certain number of years.
- d) **Look at the weak customers:** Those are customers, whose overall performance is far from their target level or is declining. Usually, these customers are ignored by SAP because they have less budget, or they do not want to lose time with customers that might shut down in three months. However, these *weak* customers have nothing (or less) to lose and could be ready to experiment with totally new products in their attempt to bring the performance figures back to track or target growth. In case of

success, these *weak* customers could be the success story SAP needs to push salespeople to sell horizon 3 products.

e) **Look at the less ‘obvious’ customers (e.g. Disney)**

As the product is “not usual SAP one”, the target group might also be not the primary or not the usual one. SAP could also go further, apply design thinking and start from “who is not an SAP customer” –see who ends up in this group and then target them as potential clients for the new product.

f) **Units/teams/groups within the organization that are lagging behind**

With the digitalization, the lagging behind units needs the new SAP solution, while the units fully involved within digitalization activities might already use current SAP solution and do not need horizon 3 products. Within the same company, there might be units lagging in this digitalization process and these specific units have the opportunity to think about the whole process from scratch and thus use horizon 3 products. In this case, SAP could go deeper into selling to its existing clients targeting different units in less advanced stages of the digitalization process.

g) **Focus on the bottleneck and not the incentive**

Some customers see the utility of the new BM but do not do it. Why? One reason could be anxiety or fear in using it. So, SAP could survey the attitude of the customers and understand why even if they see the usefulness in the new solution, they do not want to use it.

Remark: Cemre Mutlu (PNO Consultants) argue it is better to test the product with customers and in industries that present higher challenges. Then test the platform with customers operating in many different sectors. Each sector has its characteristics and therefore, it should be adapted accordingly before reaching the mass market.

h) **Involve younger generations to obtain a fresh look.**

Younger generations (e.g. students), not biased by existing SAP products, could offer a fresh look at the non-traditional solutions. How to reach this group? It could be a collective educational program. That would allow stepping out of a corporate world (as SAP does experimenting with a challenge solving platform as Telanto.com).

Other Suggestions

1. **Train the workforce in an entrepreneurial manner.** Prepare the employees for the “startup sand-box” initiative and similar ones.
2. **Corporate incubator** inevitably faces security issues (contractually protected employees starting an entrepreneurial idea, but internally) vs. the environment issue (it is difficult to be a startupper in a fully protected environment). If SAP can’t allow its intrapreneurs to compete with independent startupper due to the ownership issues, it should allow them at least to change the environment – participate at least as observers in the live startup pitches in the Silicon Valley, at Slush, Plug and Play, and other startup forums.
3. **Be stricter when selecting the jury and their evaluation criteria;** fight with the not-invented-here syndrome.

4. **MVP vs. R&D.** Citing Claus (SAP): “Our engineers when developing Spotlight, they focused on the MVP, the product, they did not think much of how to sell it” – if they did not focus on how to sell it, then it is not an MVP, it is “R&D”.
5. **Spin-off, completely decouple Spotlight** (or other standing out businesses distant from SAP brand)
6. **Start an innovation platform** like the “Ideenlabor” of the Postbank AG.¹ There, startups within and outside SAP can test their functions by allowing a selected group of people to test the new products, who in turn provide them with feedback. Maybe it could be possible to do this in a B2B area. SAP could even focus on specific customer segments and involve relevant partners such as the IHK in Germany for SMEs. That way, interested businesses have already tested the functions and were able to provide their feedback and might get interested in the overall product.

Conclusions

SAP is facing threats and issues in spreading the transformative innovation, most of which regard the business model configuration. From one side, customers are hesitant to run innovation experiments. From the other side, SAP’s sales organization is neither skilled nor incentivized to position such innovation experiments. Therefore, an open innovation approach seems vital to develop and spread the transformative innovation. However, both sellers and customers should be incentivized.

In this regard, participants suggested:

- First, to bridge the R&D department and the salesforce. Salesforces need to (1) be aware of the ideas before the creation, (2) be trained on their value for the customers, and (3) get incentives to sell it (i.e. “golden customers membership”, “bonus umbrella”; “competition”).
- Second, they need to reach their customers. For that they can do it directly (i.e. create a sandbox); through a third person (i.e. hire ambassadors) or do it indirectly (i.e. create a separate new brand).
- Third, stress out their thinking about which customers need SAP should address. Especially, SAP’s new horizon 3 products could focus less on ‘obvious’ customers and more on customers neglected by the current business model. In that case, there would be no risk of cannibalization.

Henry Chesbrough Comments

My thanks to SAP for sharing this very interesting challenge. Notice that this challenge is quite typical of what most companies would face in trying to grow a new business alongside a (very successful) existing business. In addition to these many useful comments, I would add that top management needs to be educated – and needs to buy into – the idea that this initiative needs to be measured by different metrics than the (very successful) existing business. In particular, it will be critical to establishing metrics that measure learning and product-market fit and customer excitement, instead of profitability. An example of such a metric would be the ability of the nascent initiative to attract third parties to support and enhance this offering. That open innovation attractiveness is itself a kind of market validation. Conversely, if no third parties show much willingness to collaborate, that too is a market signal, in this case, a negative one. One virtue of utilizing open innovation in the early stages of this initiative is that the presence of external collaborators both validates the initiative and reduces the internal friction with the established business so well described in these notes.

¹ <https://www.youtube.com/watch?v=Mq2XtD-Tqh4>

Solomon Darwin Comments

In weighing the many ideas and feedback provided, I believe that SAP should follow the recommendation given by Francesco Sandulli “we had a company that faced the same problem. The sales organizations did not want to sell the product, either because they were not incentivized or because they did not have the right knowledge about it. So, the company created a spin-off just to sell the product.”

This will bypass all the anguish, politics and sales incentive issues and save a lot of costs and help in speed to market the new products. Also, this will allow experimentation and development of new business models required for the new products to succeed. This was proven time and time again, as in the famous case with HPs Inkjet printer vs its new introduction of LaserJet Printer where the old product competed for resources with the other product until HP created separate entities in Canada to house the new product development.

Challenge #2: Salesforce



Charlie Isaacs, CTO, Salesforce, Customer Connections



“How do we get connectivity to the masses of the people? How do we get our move to India?”

Challenge

Salesforce is asking:

1. How can Salesforce develop a dynamic Innovative Business Ecosystem utilizing an Open Innovation Platform to Expand Markets?
2. What differences must Salesforce address in Southeast Asia?
3. How can Salesforce accelerate expansion utilizing a two-sided platform through which it can address its internal and external challenges to enhance customer experience? What data should Salesforce offer to share with its ecosystem? What data should it reserve for itself?

Participants

- A. **Moderators:** *Sea Matilda Bez (University of Montpellier); Olga Patel (The Walt Disney Company); Mariusz Soltanifar (The Open University of the Netherland); Serena Flammini (Tesco)*
- B. **Notetakers:** *Werner Fischer; Gabriele Santoro, Senda Fattoum-Belkhouja*
- C. **Industry Participants:** *Ron Weerdmeester (PNO Group); Marco Romeo (PNO Group); Marco Molica Colella (PNO Group); Ali Tayebi (Shaft Konrad); Stephane Parcheminal (Open Innovation Institute); Thomas Mehlkopf (SAP), Veronika Sagmeister (SAP); Michael Shavan (smart village) Augustin Rodriguez Fraticelli (Coty Inc.); Cemre Multu (PNO Group); Stephane Parcheminal (Open Innovation Institute);*
- D. **Academic Participants:** *Chris Bush (IBI UC Berkeley); Richard Olbrecht (University of Vienna); Anke Van Kempen (Munich University of Applied Sciences); Alessandro Comai (International University of Japan); Paola Belingheri (University of Pisa); Annabelle Gawer (University of Surrey); Julian Fieres (WHU); Francesco Sandulli (University Complutense of Madrid)*

Salesforce Background

Salesforce has a growing base of customers who have successfully connected their products and devices to Salesforce: the Business Engine that Drives IoT. Salesforce is now rapidly expanding in Southeast Asia and is looking for new models and ecosystems approaches to create and capture value. However, Southeast Asia is a very different market from North American and Europe, where Salesforce has been strong.

Recommendations from the session

1. **How can Salesforce develop a dynamic Innovative Business Ecosystem utilizing an Open Innovation Platform to Expand Markets?** Design features that could create traction and stickiness for Salesforce customers, ecosystem partners, academics and government entities in Southeast Asia

a) **Low Tech Educational Services and Mobile-friendly platform**

Many people in India have a mobile phone. Salesforce's software and related services should be smartphone friendly. In rural villages, the person does not have a computer. Thus, the training and the software need to be rethought to be mobile-first. Concretely, vocational training such as basic coding can be transmitted via SMS. Back and forth communication allows basic interaction between the student and the Salesforce platform. Indeed, this solution can track student's progress, customize the offered content, and track individual pace. Also, viable customer feedback can be collected for consistent service improvements and enhancements. Ultimately, a Salesforce certification can be handed out to students after completing a course. The created value comprises students' improved chances for getting higher-paid jobs while expanding Salesforce's customer reach. Former students that obtained industry jobs thanks to high skills developed through Salesforce courses, might become loyal customers and, therefore, endorse Salesforce solutions. This would increase Salesforce market penetration in emerging economies.

b) **Go further from Raining to Coaching (combine the group training with a coaching service)**

The design feature of Salesforce that could create traction is free training. However, Salesforce should not just provide it for free, it should rather create an incentive to use it. The badge system, that consists of getting a badge certifying the course completion, is one way to create an incentive for western countries. For rural countries in Southeast Asia, the villagers do not know what training can be useful to them (so getting a certificate for course completion is not their priority). The idea is to create groups with similar needs and assign them a specific coach to help them solve together their need with Salesforce tools.

c) **Become a platform for local solutions**

India is one of the best countries for software development. Instead of creating the content, Salesforce could offer a platform for local software. Its competitive advantage would be to offer worldwide scaling and training for the software that became successful in India. Concretely, it means that Salesforce offers an "India accelerator" for free that consists of launching the code worldwide for successful Indian solutions.

Remark: *keeping the software open source is a way to exploit the potential of local IT developers. These skilled software developers could be strategic for innovating Salesforce offer for other developing countries.*

2. The digitalized OI platform interface to connect with local consumers

- a) **Offer co-created training called “Class from [school name or company] empowered by Salesforce”**
Salesforce should, as it does in the US, collaborate with local schools. The idea is to co-create content and, then, give credits to the school for the classes by naming the class “Class from [school name] empowered by Salesforce”, and offer them a worldwide reputation as the class will be offered on all Salesforces platform. By doing so, the school will represent a model for its own country and push the student to attend the class. Moreover, a similar offer should not be restricted to school. It could be organized with companies, offering a “customized content” based on a big company, need such as Tata. Thus, all the company’s employees will need the badge assigned from this class. Concretely, these schools or companies would become the local ambassador of Salesforce.
- b) **Leverage Salesforce current customers that operate in India**
Develop a joint venture with a current client based in the US, which already operates in the Indian market. This would create a win-win situation, exploiting the experience, resources, networks of the client. The Joint venture could involve a third company providing complementary resources and capabilities such as analytics, or understanding of the Indian market needs, etc.
- c) **A freemium offer**
As India is growing fast, the competition is becoming fierce with more pressure on prices and critical success factors. Competitors are offering the same services at lower prices and with a better interface. For instance, Zoho² is easier and cheaper, but there is a huge market in India, a market for everyone. One possible strategy could be to focus on a freemium version at an early stage, to acquire many customers and their data. Later, Salesforce could set the price based on the offer and the customer.
- d) **Collaborate**
When trying to enter Southeast Asia, Salesforce should not try to do everything by itself as they did in the US. It should work with the local ecosystems, such as Alibaba and Wechat for China. In other words, “they will have to cooperate or fail”. In China, these collaborations are mandatory through Joint Venture, and in India too (even if not formal). Salesforce could look at the failure of Amazon in India to learn from its mistakes.
- e) **Be clear on what to use the data for before collecting it.**
India data will be specific to the country and thus, before even thinking about who owns the data, Salesforce needs to think about what it wants and it can do with it. For instance, is it willing to sell the data to third parties or does it want to improve its customer’s analytics tools?

² **Zoho** is an Indian [web-based](#) e containing [word processing](#), [spreadsheets](#), presentations, [databases](#), note-taking, [wikis](#), web conferencing, [customer relationship management](#) (CRM), [project management](#), invoicing, and other applications developed by [Zoho Corporation](#) (formerly AdventNet Inc.), a California-based company. <https://www.zoho.com/>

3. The potential issues of an OI platform and how to overcome it

Salesforce faces a multitude of challenges when deploying its business model in emerging economies when it was designed for western economies in the first place

a) Study companies that failed in the targeted countries

Companies which experiment a failure in India	One reason for the failure	Takeaways for Salesforces
Apple ³	the iPhone was too costly and Apple successful business model of coupling the purchase of the phone with monthly subscriptions with telecom operators could not be applied (as in India paying by consumption is common)	Rethink the business model
Amazon ⁴	Amazon was disrupting negatively the local economies	Salesforces need to make sure to create a win-win relationship with local companies
The company of one participant which was developing an OI platform	The OI platform that was successful in the US failed in China because people do not want to be associated with a bad idea (the solution they found was to guarantee the anonymity of the ideas)	Analyze the culture and what do the customers want is the first step

Remark: use market attractiveness framework to prioritize the country to go to.

b) An exchange task force program to understand local specificities

Salesforce and some of its potential Indian customers should exchange 2 to 3 employees for 6 months. On one hand, Salesforce employees sent to one of its potential customers in India should spend time understanding the Indian culture and brainstorm on customized Salesforce products for the Indian market. On the other hand, the employees from the Indian potential customers should be treated as a task force to challenge and improve the Salesforce strategy in India.

Also, Salesforce should train its employees on cultural differences and remember that in this project it is impossible to think that “the world is America, so they might face big differences in thinking and behaving when they go to India.”

For instance, some participants argue that Salesforce should also consider entering the market with an Indian name and that the graphic must be changed, customized for Indian customers and made easier. This idea should be confronted by the task force and the salesforce employees sent to India.

³ <https://www.forbes.com/sites/petercohan/2018/12/19/5-reasons-apples-india-strategy-is-an-epic-fail/#7c4e6f1c2edc>

⁴ <https://www.vox.com/2019/2/1/18205635/amazon-india-regulations-q4-earnings-prime-online-retail>

c) **Focus on a low-cost solution**

Efficiency and costs reductions should be addressed for entering the market and compete with local companies. Indian companies spend relatively less compared to US companies and there is other software with a good interface and easy to use (e.g., Zoho). Thus, the participants highlighted that the business model should be different. One of them came up with the idea of “Salesforce Essentials” that consists of offering the essential for a lower cost.

d) **Solving the communication problem and lowering the communication cost**

In India, people have fewer resources and limited internet bandwidth, enabling only a few to have access to high-value products and services. At its core, solving the communication problem and lowering the cost is therefore critical. To reach more people, Salesforce can leverage low-technology solutions, such as SMS, bridging the last mile since most people have cell phones. Moreover, establishing strong partnerships with local and global infrastructure providers, such as telecommunication corporations, can sustain the reach while increasing the ability to provide more sophisticated services in the long term.

However, a multi-stakeholder for its implementation is critical where Open Innovation needs to be applied. The quadruple Helix concept, bringing together people from academia, the private sector alongside the public sector, administration, and civil society unify different people to talk about how Salesforce can create value from different perspectives. Aligning partners while exchanging ideas, resources and expertise will enhance speed to market and eventually ease the scale-up.

4. **Other Suggestions**

Other ideas emerged during the discussion, some concerning Salesforce internationalization and innovation strategy.

- Use subscription models
- Targeting universities, mainly technical ones, and startups, but with a “Human capitalization” approach rather than “decentralization within campuses” one.

Conclusions

Salesforce should consider three main perspectives in addressing the successful entry in the Indian market: a) the value proposition; b) internationalization strategy; c) the local specificity.

- a) Regarding the value proposition, Salesforce could shift into a Low-Tech Educational Services done through mobile phones; a coaching platform that solves a specific group’s need, or a platform that helps local IT solutions to grow and become international.
- b) Secondly, the internationalization strategy matters for Salesforce’s competitiveness in India. The discussion highlighted that the Institutional and competitive environment in India suggests entering through a joint venture strategy, developed either with a current client based in the US, which already operates in the Indian market or with a local company/university that perhaps knows the business environment. Being supported in developing customized training for free, they will become ambassadors of the Salesforce training programs. Moreover, from an open innovation perspective, this

strategy would allow Salesforce to access valuable resources and capabilities such as analytics, big data, local market knowledge, etc., vital for competing. The access to valuable resources, along with skilled IT developers, would allow Salesforce to innovate globally.

- c) Finally, Salesforce could/should invest in understanding the local specificities (i.e. specific mobile communication; low cost and competitive market; rural villagers who do not know what they need for training; a pool of highly skilled IT engineers to leverage). Concretely, Salesforce can use this idea of bringing in a task force of Indians with a diverse background to challenge Salesforce ideas and solutions.

Henry Chesbrough Comments

There are many useful points in these notes. I wanted to add another success case in India that has some interesting implications for Salesforce: the case of Asian Paints, taken from my 2011 book, *Open Services Innovation*. The core idea in this example is that Asian Paints was able to obtain a leading position in India by becoming the back office for its distribution channels in India. Salesforce could positively improve its position in India by offering to be the back office for its business partners as well.

Here is the case from the 2011 book:

The development of recommended applicators could have alienated some of Asian Paint's traditional channel partners. However, another clever innovation that accompanied this new service offering was the ability of channel partners and applicators to obtain real-time status information on each job they entered into the Asian Paints Home Solutions system. This system became part of the channel's "back office", recording status activities, outstanding jobs, new bids, and reporting new updates as they arose. For many channel partners, this was the first time their activities were computerized. So Asian Paints took care to include its distribution partners in the new initiative and provided added value to them as well as to the end customer. This is another example of economies of scope, but now in a new context – taking over more of the work of the distribution partners, who were the representatives of the company with the end consumer.ⁱ

This greatly improved the transparency of the entire solution offering, for Asian Paints and its channel partners. The new solution would allow both the provider and Asian Paints Home Solutions to view all customer interactions and financial information in real-time. This same system would also provide updates on the status of marketing rewards programs that were run by Asian Paints from time to time. Also, the service allowed solution providers to generate a variety of sales, leads, and activity analysis reports. This functionality could even tabulate the results of the customer surveys submitted after a job. In general, this system greatly enhanced the amount of information most solution providers had about their customers and their business. Of course, it also revealed project and consumer information to Asian Paints for the first time, a key strategic benefit from this initiative.

With this vastly better data, Asian Paints was able to implement changes to take cost and time out of its processes with its many channel partners. The company was able to greatly improve its ability to forecast orders and volumes in this segment. This streamlined inventories, recovering working capital often tied up in transit in the old system. It also improved the response time between when a new job was entered, and order received, and when that order could be fulfilled. And the percentage of time when the required paint was not available was also greatly reduced.

Encouraging Results

While there were challenges and bumps in the road as the Home Solutions offering was implemented, the result of the initiative was encouraging. In the first phase of the program, Asian Paints was able to serve more than 34,000 installations. In the four years since the implementation went live with 17,500 persons registered for Asian Paints Home Solutions consultations, and of these, 5,000 signed up for painting jobs. Revenues grew rapidly, amounting to nearly US\$10 million in FY 2007. This represents a doubling of revenue from the program in just 3 years. Margins, though not publicly revealed, were reported to be attractive as well.

There have been strong secondary benefits from the project as well. The new solution gives Asian Paints greater visibility into all its end customer interactions. As a result, the company has gained a deeper understanding of the needs of its end customers and has been able to modify its service business to better meet these needs. Asian Paints also has reduced the time it takes to attract a new customer, and convert them into a user of its products. Nearly 25% of its Home Solutions business is coming from referrals from satisfied customers, and about 7% so far has been from repeat business by current customers.ⁱⁱ

Solomon Darwin Comments

The emerging job market will demand new skills driven by increased connectivity, digitalization, and open innovation platforms. The current educational programs in India are too antiquated and not able to keep pace to meet the huge emerging demand. India houses the world's largest youth and children population, however, almost 70% of this population resides in rural areas. This represents a huge opportunity for Salesforce to educate and equip the future talent to meet the job demands of its huge ecosystem.

As it was pointed out in the recommendations, most of these skills can be developed, tested and certified through mobile devices without the expense of relocation in the comfort of their own village. Learning coding and programming could be made fun and addictive through gaming techniques without the aid of a local teacher. Students should be encouraged to form their own groups online to learn collaboratively and compete to earn awards to accelerate their job placement. This presents a huge opportunity for Salesforce and its entire ecosystem of companies.

Salesforce could develop an open innovation skill development program in collaboration with other global giants like Nvidia, Amazon, Microsoft, and Reliance who are already trying to address this gap. However, most of the firms are focused on their own verticals. This siloed approach does not constitute a holistic and well-balanced education or skillset. Salesforce should identify training programs for relevant jobs in demand and offer placement to those who get certified through their programs. Also, Salesforce can work with other stakeholders to orchestrate cross-certification and validation of qualified candidates for job placement. This will be a real value proposition to India's unemployed youth while meeting the demands of the market.

Challenge #3: Ericsson



Mallik Tatipamula
CTO Ericsson, Silicon Valley & Americas

“There is a massive transformation happening in the industry, call it digital transformation or IoT, and Open innovation is playing a much more important role than ever before! With 5G we have created the biggest open innovation platform ever! The industry needs open innovation researchers to understand what open innovation means in ecosystems and multi-side platforms! These OI challenges are the main challenges of these times - It can produce so many great research opportunities, just because the industry has no clue yet.”

Challenge

The Telecom industry is going through massive transformations with the adoption of 5G technology. 5G offers enhanced mobile broadband experience to consumers as an extension to 4G/LTE, while offering new use cases such as Industrial IoT, Manufacturing, Healthcare, Automobile, Smart Cities/Villages, due to 5G's ultra-low latency and massive connectivity and bandwidth it offers. The telecom operators seek to increase their market share by stimulating faster adoption of 5G and developing new services and business models enabled by 5G. Many 4G leaders, by contrast, want to milk their existing infrastructure longer and delay the rollout of 5G. Creating new business opportunities leveraging emerging 5G technologies can be a challenge. Given the emergence of 5G technology that requires new technology infrastructure and layout:

1. What new services and markets can Telecom operators create within the existing market as well as new customer segments?
2. How can telecom operators stimulate more rapid diffusion of 5G by their traditional customers?
3. How can Telcos test new service offerings enabled by 5G?
4. What innovative ways Ericsson can respond to reduce the total number of new towers needed, given the many more cell towers required by 5G?

Participants

- A. **Moderators:** Iryna Malacina, (Lappeenranta-Lahiti University of Technology); Lukas Falcke (ETH Zürich); Olga Patel (The Walt Disney Company); Mariusz Soltanifar (The Open University of the Netherland); Senda Fattoum-Belkhouja (Grenoble Ecole de Management); Serdar Temiz (Uppsala University School of Entrepreneurship)
- B. **Notetakers:** Werner Fischer; Dieudonnee Cobben; Hamdy Abdelaty; Giulia Piantoni; Roel Piepenbrink; Ekaterina Albats; Prem Sagar Menghwar; Qinli Lu; Serdar Temiz
- C. **Practitioners from Industry:** Daniel Seiler (aucta.oi); Aline Bressan (Martins, Knowledge Transfer Network); Francesco Sandulli (University Complutense Madrid); Charlie Isaac (Salesforce); Cemre Mutlu (PNO Group); Marisol Menendez (Spain Startup); Serena Flammini (Tesco); Ron Weerdmeester (PNO); Felipe Poo Salinas (Enel Global Power Generation); Kim Hastrup (Danish Veterinary and Food Administration); Badarinath Gella (Smart Village Movement); ; Serena Flammini (Tesco)

D. **Academic Attendees:** *Anita McGahan (Toronto University); Ali Tayebi (Brunswick University); Jarlath Lally (Solvay Brussel School of Management and Economics); Henry Chesbrough (UC Berkeley); Chris Bush (UC Berkeley)*

Ericsson's Background

Ericsson is a Swedish multinational networking and telecommunication company, and a leading provider of ICT for service providers. They create the value of connectivity by offering their customers high quality and innovative technologies and services that support the usage, adoption, and scaling of technologies. Ericsson's portfolio includes business units across Networks, Digital Services, Managed Services and Emerging Businesses that are powered by technological platforms (e.g. 5G and IoT). Ericsson has a well-integrated CSR strategy that aims at boosting socio-economic development. Part of this strategy is all kinds of open innovation initiatives that aim at providing solutions for societal challenges (e.g. Ericsson Digital Labs).

Recommendations from the session

1. Provide remote education and health care services in rural areas

5G technology could enable the broad adoption of virtual and augmented reality applications, which could be used in education and health care organizations. These technological solutions could also increase safety for workers in manufacturing, process industry or mining. Partnerships can be developed with, for example, pharmaceutical companies that will further unveil the benefits of 5G technology. Within rural areas, no lock-in effect exists yet regarding infrastructure. These areas often do not have access yet to 3 or 4G, so there is an opportunity to reduce negative environmental externalities by directly building a 5G infrastructure.

2. Open up the infrastructure to competitors and make it flexible

Opening up base stations (wireless communication station at a fixed location that is used for wireless connectivity structures) instead of creating competition among multiple stations would increase efficiencies and reduce resource usage. This strategic change would support the rapid adoption of any innovation that builds upon 5G and that could fuel benefits for society. In addition to opening up to competitors, also other organizational types such as NGOs could contribute to the infrastructure. Collaborations with NGOs will help to roll out use cases that can be beneficial for underprivileged workers. Companies can perform better by collaborating with partners from different sectors and competitors from the same industry. In its unique positioning in the ecosystem, Ericsson should develop powerful collaborative partnerships in each vertical direction (such as transportation, education, healthcare, energy, and mining), while ensuring mutual benefits for society, environment, and business. When opening up, Ericsson can stimulate early adoption and pull it to make sure that other organizations have no other option than adopting it.

Besides opening up the infrastructure, it is also important to enable a flexible infrastructure. The demand of the customers changes quickly, making it difficult to develop an appropriate network. It can be a challenge to estimate how much infrastructure needs to be developed and at what locations. When the infrastructure is more flexible, customers such as universities could use the services for free or at a discounted price.

Remark: 5G requires flexibility; it is not possible to develop a 3.5-years program, because opportunities need to be identified and are not known at the start.

3. Build ecosystems and partnerships

When the infrastructure is being opened for other organizations, it is also possible to build (multi-actor) partnerships with academia and industry to get them excited for technological developments. Ecosystems can be used to address specific challenges such as traffic congestions. Within these specific ecosystems, partners that have somehow a relation with the topic of the challenge (in terms of expertise, knowledge, or resources) can collaboratively develop the required innovations to solve the issue. Governments can support the process by providing direction and finances (e.g. subsidies). It is important that these ecosystems also integrate collaborations with competitors, as we expect that the leaders of 4G will not be happy with 5G. It can be interesting to include the competitors (e.g. Orange) and show them how they can benefit from the emergence of 5G. This can reduce the resistance of 4G leading companies. Despite the potential impact that ecosystems can have, it is important to consider whether Ericsson will host the infrastructure and ecosystem, start to build relationships and allow consumers to learn about 5G, or whether Ericsson will just be a partner within someone else's ecosystem. Related to the answers to these questions are further questions such as who owns the data? Who manages the data? Ericsson has to address these questions when it decides to facilitate or join an ecosystem.

Ecosystems offer opportunities for pilot projects on specific topics. 5G implementation has several risks, but most of them can only be understood when we have experimented with 5G in practice. We need to break the neutrality, depending on the targeted service. Capabilities need to be developed to organize an experimental approach.

***Remark:** To stimulate the adoption of 5G technology, Ericsson needs to start with installing 5G technology to explore, experiment and learn. New innovations require experimentation and continuous learning.
Remark: innovations require collaboration between researchers and the industry.*

4. Look beyond existing customer segments

5G offers opportunities for new customer segments and new products that go beyond existing segments. Several customer segments have been identified are:

- a) *Media:* B2C has already been done with 4G, and now 5G offers completely new opportunities to collaborate with organizations that are working with technologies such as VR and IoT. When collaborating with these kinds of "new technology" companies, new customer segments such as elderly people (e.g. caretaker robots) or football stadiums (e.g. better experience) can be addressed.
- b) *Utilities:* utilities represent an attractive customer segment, as the need for sustainability requires high-quality internet to optimize energy storage and usage. Utilities can use the 5G network to provide parking spaces, have virtual electricity centers, and connect energy storage from housing and cars.
- c) *Public organizations:* Public organization bodies can control traffic, with the help of drones that use 5G networks. As such, the speed limits can be checked, detours can be developed, and traffic jams can be reduced.
- d) *Logistics:* Enel already uses drones to follow the orders that are transported by their trucks. The information is used to decide whether the warehouse is ready to receive the orders in the truck. When a good and reliable network is present, logistics can be optimized to make sure trucks and ships are as full as possible.

***Remark:** technologies such as 5G can provide new market opportunities for Ericsson and as such access to new customer segments.*

5. Provide hardware-as-a-service

When Ericsson wants to stimulate the adoption of 5G, it could be an option to provide hardware-as-a-service (HAAS) to reduce the initial costs for B2B customers and share it with competitors. When collaborating with competitors, i.e. coopetition, it is possible to give them a service for free or a freemium model, to enable joint learning processes and stimulate adoption.

6. Differentiate with a “healthy 5G”

There are concerns about the effects of 5G on the health of society. In an appeal to the European Union, more than 180 scientists and doctors from 36 countries warn about the dangers of 5G, which will lead to a massive increase in involuntary exposure to electromagnetic radiation⁵. Ericsson could take the lead in creating a 5G that fights against the negative effects on human health quality.

Conclusions

The implementation of 5G requires companies such as Ericsson to look beyond the existing ways of doing business. Closed innovation is no longer possible, as the large quantities of data that will be produced by these networks offer opportunities that go beyond the focus of one organization. Besides, the technology is too complex for one organization to understand and own the whole network. Rather, strengths can be combined when each company/organization tries to learn from the data in the line of existing capabilities, to look at how to upgrade existing capabilities and develop the capabilities of the future for the own organization and for the ecosystem as a whole. Technologies such as 5G ask for open innovation; look beyond the company’s boundaries, into the wide world of OI to explore the opportunities (e.g. ecosystem building) that it has to offer to strengthen the competitive advantage of Ericsson. To enable full value capture from OI, Ericsson needs to be aware that internal structures, processes, culture, and metrics needs to be changed and aligned. Within the ecosystem, 5G adopters need to be stimulated to connect existing products. Ericsson needs to be out there, be fast and look for new opportunities.

Henry Chesbrough Comments

5G promises to be a powerful, pervasive technology that Ericsson can lead. But for Ericsson to achieve its potential during this transition, it is not enough to provide excellent connectivity. Ericsson must also demonstrate value-added applications of 5G to its customers, to show the business case for more rapid adoption. One way Ericsson can do this is to provide more ways to manage and utilize the much larger volume of data that 5G will enable. During the workshop, for example, I offered the observation that Ericsson might be able to partner with one or more insurance providers to offer new and more targeted insurance offerings, based on the superior data available from a sensor-rich environment using Ericsson’s systems. Insurance works better when one has better information, and with Ericsson, many customers will have improved information. This is one example of the broader concept: go beyond the connectivity to provide more value-added services enabled by the superior connectivity.

⁵ <https://www.jrseco.com/european-union-5g-appeal-scientists-warn-of-potential-serious-health-effects-of-5g/>

Solomon Darwin Comments

5G will be less affordable by poor rural people who need it the most. Ericsson may need to partner with Telco's to offer variable pricing to certain customer segments by reducing their pricing to them. For example, to village schools and clinics to leverage this technology to accelerate education and healthcare. This will enhance Ericsson's brand image in growth markets where the majority of people on earth live.

Challenge #4



Ron Weerdmeester

European Leader in Strategic Innovation Services, PNO Group



“By collaborating in new ways, innovative solutions can be developed, revealing novel competitive advantages. Our claim is: there is lots of stuff out there to tap into. Instead of stupid innovation, reinventing something that has already been developed, use external sources and data to create smart innovation!”

Challenge

The challenge presented by PNO was titled “Overcoming Bottlenecks that Block the Successful Use of Open Innovation within Organizations”. Working on its Open Innovation Consultancy capabilities, PNO decided to profit from the OI Community of the WOIC, to build on their expertise and experiences in identifying the bottlenecks that different stakeholders face in the implementation of OI and, even more, on the potential solutions that would allow overcoming these bottlenecks. In particular, PNO asked the WOIC community to identify both hurdles and solutions for industry engagement in OI, identification of relevant external technology and technologies, and collaboration with other stakeholders from the private sector (large enterprise and/or SMEs), public sector (government, public organizations, public authorities, etc.), and research sector (academia, research institutions). The final goal was to gain some understanding of how PNO can boost the OI process of its industrial clients by helping those clients in overcoming key OI bottlenecks. The attendees of PNO Industry challenge session broke down into 4 groups, each of whom brainstormed around OI implementation bottlenecks and potential solutions for different OI stakeholders: Large Enterprises; SMEs; Public Organizations; Research Organizations.

Participants

- A. **Moderators:** Hamdy Abdelaty (Freie Universitat Berlin); Giulia Piantoni (Politecnico of Milan); Agnieszka Radziwon (Aarhus University); Prem Sagar Menghwar (LUISS University)
- A. **Notetakers:** Dieudonnee Cobben; Isabelle Tyrasa; Werner Fischer; Iryna Malacina
- B. **Practitioners from Industry:** Marco Molica Colella (PNO Group); Felipe Poo Salinas (Enel Globalower Generation); Andrea Rausa (PNO Group); Augustin Rodriguez Fraticelli (Coty Inc.); Chiara E. De Marco (PNO Group); Michael Shavaon (Smart Village Movement); Luisa Caluri (Eni SpA); Kim Hastrup (Danish Veterinary and Food Administration); Jarlath Lally (Solvay Brussels School); Angelo Rigillo (Enel); Italo Marconi (Connexia); Sophie Parachey (Startup Flow)
- C. **Academic Attendees:** Frank Piller (RWTH Aachen University); Isaac Lemus-Aguilar (Universidad Politecnica de Madrid); Ali Tayebi (Brunswick European Law School); Mari K. Niemi (InnoLab, University of Vaasa); Mona Enell Nilsson (University of Vaasa); Asta Pundziene (University of Lithuania); Ruusa Lighthart (University of Cambridge); Jaan Pauli Kimpimäki (LUT University); Henry Chesbrough (UC Berkeley); Jose D’Alessando (LUISS University); Maria Isabella Leone (LUISS University); Francesco Sandulli (University Complutense of Madrid); Angela Sansonetti (LUISS University)

PNO Group's Background

PNO is a medium-sized innovation consultancy (+400 employees), headquartered in The Netherlands, and operating across seven European countries (BE, DE, ES, FR, IT, NL, UK) and in Israel. With more than 30 years of experience in innovation and public funding, PNO has a strong track record in innovation management, project development & partner search, project financing, intelligence, communication, and application. PNO offers these services to a wide range of clients, from SMEs to multinational companies, non-profit organizations, technological platforms, multi-stakeholder partnerships, universities, and governments. The company is seizing the opportunity of becoming a leading Open Innovation consultancy firm, building on its expertise in generating, managing and orchestrating cross-sectoral and cross-country R&D consortia, collaborating through OI approach, even when this is not explicitly acknowledged. Over the last 35 years, PNO has been contributing to its clients' R&D activities by helping them to develop collaborative projects and obtain public funding. More recently, PNO has been systematizing its innovation management expertise and structuring its services to help clients in benefiting from insourcing technologies and (scientific) knowledge, collaborative innovation and maximizing the return of investment in research, development, and innovation.

Recommendations from the session

1. The identified bottlenecks in OI implementation

The community of experts and academics offered several takeaways on how PNO could use its existing experience and capabilities to support its industrial clients in overcoming OI bottlenecks and maximize ROI from industrial collaborative R&D activities. The four discussion tables identified the main bottlenecks in practicing innovation and, in particular, pursuing OI faced by each of the stakeholder groups: Large Enterprises (LEs), Research Organizations (ROs), Public Organizations (POs), and Small- and Medium-sized Enterprises (SMEs).

a. LEs' challenges of OI

The group discussing LEs identified five major bottlenecks: i) short-term orientation of OI strategies, ii) difficult definition of value proposition, iii) path dependency issues in searching activities, iv) budget clustering issues, and v) need of OI metrics and KPIs.

The group discussing LEs pointed out the opportunities and advantages that this type of stakeholder has compared with other stakeholders (e.g. SMEs). LEs are familiar with OI and are endowed with resources, budget, network, etc. LEs differ in terms of industry and any solution to their challenge should consider these differences. Even OI strategies and needs may vary from industry to industry, but LEs still encounter common hurdles in their OI activities. Despite having dedicated units or teams, OI in LEs is usually a **short-term project or experimentation practice rather than a long-term strategy**. Therefore, the group argued that LEs should establish long-term collaborations with innovative startups to strengthen the partnership and go beyond pilot projects, getting to the higher value of collaboration and scale-up of innovative solutions.

Remark: "Every large company had an open innovation pilot, and then no one has an open innovation practice" (Prof. Frank Piller).

LEs face problems in the delivery of value. Given the availability of assets and resources, searching activities are relatively easy for LEs, while the **value proposition** is difficult. Setting up special departments for innovation screening might be effective in measuring the proposed value and understanding their problem before solving it. In searching for opportunities, however, LEs might suffer from **path dependency**: they usually have large and well-established networks and relationships, which makes it hard to think wider and

out-of-the-box, going for complete blue ocean exploration activities. Furthermore, LEs need and want solutions as soon as possible, working with someone that knows the entire processes, which might be quite a challenge for consultants coming from outside the company/unit. Indeed, LEs usually work in silos that slightly interact with each other and, in some cases, with the external environment. In this scenario, LEs also face the problem of **budget clustering**, meaning that each unit/silo has its own budget for specific projects, investments, opportunities. This fragmentation raises uncertainty of success, especially when the projects/opportunities are managed through OI practices and something completely unexpected result from the activities. This would require an additional budget that individual units might not have: despite the organization itself has resources, the procedures to allocate them might prevent units from benefiting from unexpected (open) innovation results due to the lack of allocable budget.

Remark: It is vital to create awareness that solutions could come from new partners or less-connected organizations. The path-dependency phenomenon is also referred to as “Managers’ cognitive bias” in the process of business networking, which highlights the needs of broader and more open search and exploration activities.

Finally, LEs need **(new) internal metrics** to track and measure the performance of their organization with OI. Traditional metrics might not serve the purposes of OI nor be effective in fairly assessing its results. As some participants said, *‘if the metrics don't change, then you're swimming against the tide’*. Measuring the impact of OI on improving Return on Investment of internal RD&I processes (shortening time-to-market, reduced R&D costs per innovation, etc) is still a challenge. Furthermore, only looking at (internal) financial aspects might not be the proper metric for OI. Some LEs are already measuring OI projects in terms of how much resources they generate outside of the company, or with how many external organizations they collaborate. This could not only offer new ways to measure and monitor the implementation of OI but focusing on, managing, and measuring the allocation of external resources to LEs’ strategic objectives, could also provide new ways to build and measure “resilience of innovation” in critical economic circumstances (e.g. where the LE itself has fewer resources for RD&I, while external partners continue to invest in collaborative RD&I together with other corporates).

Remark: LEs formulate value propositions and assess this value throughout the process in a very different way from SMEs. Therefore, they look for different customized value from service providers, for example, in the form of structuring OI processes, special value services, organizational design, etc.

b. ROs’ challenges of OI

The group discussing ROs defined three major bottlenecks: i) divergence in expectations between academia and industry, ii) different perceptions between ROs and external partners, and iii) technology transfer and financing issues.

Researchers at ROs and external industrial partners have usually **different expectations from the collaboration**. Researchers aim at publishing their work and generating knowledge, usually for the sake of knowledge only, while industry aims at commercializing and profiting from the generated knowledge in the shortest time to market possible, which implies secrecy of the research results. In this scenario, researchers are not comfortable about what they need to keep secret and what they are allowed to disclose. These problems are generally connected to the characteristics of the academic legal support systems, which are too traditional and unable to help researchers in overcoming these challenges. Besides, the differences in the pursued goals, motivations, rewarding systems and procedures existing between academia and industry might also affect their communication about expectations and value of the collaboration. ROs might also be difficult to engage as they often hesitate about whether they can add value to industry and, even more, whether the

time they spend on collaborative projects will also add value to their research activities. Hence, they are not always willing to connect to and communicate with industrial partners, also as a result of this knowledge gap regarding the potential value of collaboration.

Remarks: Researchers need innovative legal support systems that redesign the internal playbooks to fit with their OI strategy. Structures, cultures, and processes need to be redesigned with a collaborative, confronting and iterative approach.

Another major issue in ROs' activities of OI is the **financial problem**. Research funding and commercialization are two aspects of the problem and are related to the challenge of disclosure of research results. ROs are under pressure to develop their own financial resources, exploiting their patents with the help of the technology transfer offices (TTOs), as potential private investors would not be interested in unprotected ideas. Therefore, they need to keep their research unpublished, which goes against knowledge generation and the academic reward systems. When research is instead financed through public funding, which allows the privilege of results disclosure, the funding is rarely enough to finance ambitious projects.

Remark: Do ROs have to cut out public funding and depend on commercialization techniques to fund ambitious research projects?

c. POs' challenges of OI

The team focused on the challenges faced by POs while implementing and engaging in OI, identified as core bottlenecks the i) POs' risk aversion, ii) budget constraints, iii) data-sharing issues, iv) difficulties in cooperating and establishing external relations with both SMEs and LEs.

POs are intrinsically **risk-averse** and public employees need good reasons to act while being covered/protected by the approval of their bosses (i.e. colleagues ranking higher in the organization's hierarchy), to make sure they don't get too far from what general rules allow. POs are currently lacking clear and shared guidelines including the reasons to cooperate with external actors (WHY), the goals (WHAT), and the processes to achieve these goals (HOW). POs also face the issue of **constrained budget**, which limits their innovation actions and raises difficulties in balancing resource allocation between OI and non-OI activities. Nonetheless, POs have a great resource that usually private organizations don't have: data. The public sector has a huge amount of data and/or is in a unique position to collect and manage them, but it is still struggling in finding the right balance between **data sharing and protection**. Starting using these data would improve efficiency and attract external collaborators. The issues relate to the challenges embedded in managing relationships with other innovation stakeholders. LEs, in particular, are not keen to work with POs as profit and IP control are usually not protected in the virtue of open source approaches in publicly funded projects (e.g. EU funded RD&I activities). SMEs and startups, instead, pose constraints related to the procurement legislation and timing: they need flexibility and fast project implementations, which can hardly be granted by POs.

d. SMEs' challenges of OI

The group focusing on OI challenges faced by SMEs highlighted that there are substantial differences between SMEs and startups. However, the group still brainstormed around the hurdle that is common to both types of companies, and identified four major bottlenecks: i) resources constraints; ii) short-term vision, iii) innovation funding issues, iv) scaling-up problems

such as the **time and resources constraints**, which lead these small organizations to **focus on the forefront issues**, often forgetting about even the nearest future. SMEs face issues in understanding and bearing innovation priorities and managing organizational and cultural challenges.

Remarks: in small organizations is very important not to point fingers, but rather understand that, as organizations, they can do better working together.

Other constraints relate to **financial issues**: small organizations are constantly searching for external funding to alleviate their limited internal finances, but also to boost the implementation of their R&D and innovation activities. Finally, many SMEs might result **not interested in scaling up** their businesses, in some cases, simply because they're comfortable in their status but, in most cases, because of the difficulties involved in the scale-up processes. Incubators and accelerators are pushing business model framing and scaling efforts but scaling up is also difficult as customers need all SMEs' intellectual resources. Nevertheless, knowledge flowing in from the external environment (inbound OI) could offer the biggest and most welcomed value added to small companies. The areas which seem to be promising within the current state of research and technology development are the manufacturing and implementation of automation (hardware-software) solutions, as well as workplace digitalization of everyday tasks (software solutions) with a combination of proper partners/stakeholders selection and management process.

2. PNO opportunities in solving stakeholders' challenges in OI implementation

Besides identifying the most painful challenges that different stakeholder groups face in practicing OI, the roundtables at PNO industry challenge discussed and brainstormed about what role could PNO play in helping the innovation actors in overcoming the identified bottlenecks. The groups identified concrete potential services, tools, and methods that PNO could develop to have all the stakeholders benefit from its actions.

a. PNO as the orchestrator of an OI Platform

One of the ideas that consistently came up in the discussions of the four groups concerned the opportunity for PNO of becoming an **orchestrator of an OI Platform** in Europe, involving all innovation stakeholders. This would be a tool for OI diffusion and management across Europe, it would serve as an OI project and system management software, and Decision Support System in the stage-gate process of innovation. The platform would also include templates, procedures, benchmarks, criteria, metrics and appropriate KPIs to guide project stepping to the next phases, assessment, and evaluation. The OI platform would be a real tool through which PNO would be able to support OI management for its clients.

Benefits for LEs. All the mentioned features would prove particularly useful for LEs. Moreover, in connecting LEs and SMEs, the platform would go beyond search activities: the searching and mapping of solutions specs would be associated with the scoring, evaluation, and rankings of the solutions. The OI platform and PNO action would not just concern exploration activities, but also select the solutions most worthy of attention, avoiding issues of **over-searching** for both LEs and SMEs. The selection service could also be offered by PNO on top of the basic services provided on the OI platform. Furthermore, the OI platform could be used to validate ideas developed within the companies that did not find any political support. In these cases, PNO could connect the solution to external stakeholders, favoring outbound flows of innovation or gaining to the solution an interest from the external community that would validate it for the originating company, which would be then motivated to pursue the innovation project.

Benefits for ROs. An OI platform managed by PNO could also benefit ROs as PNO would play the role of a **professional mediator**, a broker that bridges the communication gaps between academia and industry. Given that the high majority of PNO's employees have an academic background combined with strong business expertise, the firm would be able to communicate effectively with both academia and industry – clarifying expectations and objectives of collaboration – and mediate their relationship building on HRs' specialization. Clearer objectives would mean higher clarity on how to achieve the goals and a smoother collaboration among partners. PNO would hence be the broker connecting, translating and linking actors playing the **matchmaker** and ease the **search of partners** for both the private sector, POs, and ROs. The latter could benefit from PNO

exploitation expertise and connections to the industrial world and be supported in the exploitation of their research results, pursuing commercialization strategies in collaboration with industrial partners.

Benefits for POs. PNO can also use the OI platform to offer services to the public sector. It could set up '**consultation boards**' including thematic experts coming from PNO wide network and contributing to the priority setting for decision-makers. PNO would facilitate the activities of the boards and favor a clever use of economic incentives for innovation, as a lever of growth and attractors of innovation stakeholders to the shared design of policy and priorities. The board could meet systematically to secure updates on economic and (public) project developments. These meetings can gather interest and potentially inputs on the OI Platform, and then be run, designed and moderated by PNO, at least in the initial phases.

To address POs' issues of budget constraints, the brainstorming group imagined that, on the OI Platform, PNO could initiate and manage **crowdfunding initiatives** accessible to any platform user, to be brought about by the public sector in collaboration with other stakeholders. Finally, PNO would support POs in **searching and discovery activities**, identifying and selecting opportunities of innovation to be pursued and/or boosted, but also potential partners with which the public sector should collaborate. On the OI Platform, PNO can also integrate **technological elements**, introducing tools such as virtual secretaries, community management tools, database on policies and people involved, etc. Virtual secretaries, for example, would support matchmaking activities, as actors could post on the OI Platform networking events, visits, conferences, etc., and they can get notified about what kind of interesting events a potential partner is attending, where and when. The technological elements would also help overcome the *data-sharing issues*, as POs could rely on professional data management that identifies sensitive data (e.g. healthcare, financial, etc.), as well as more easily sharable data. PNO could integrate available databases, structuring and organizing them at a high level.

Benefits for SMEs. Finally, SMEs would benefit from PNO-driven orchestration of an OI Platform as they could use it to drive their innovation strategic decisions in terms of OI partner identification, and innovation trends to tackle. This way, SMEs would avoid the risk of falling under over-searching issues: an OI platform would allow innovation actors to jointly and sharply define innovation challenges and identify solution providers (both start-ups and SMEs) with whom co-develop innovation projects, improving ROI for all the actors in RD&I projects. Furthermore, easier and more effective identification of partnering opportunities would not only guarantee better fit and, henceforth, more effective collaboration, but also the overcoming of 'path dependence' issues thanks to the possibility of co-creating innovation business cases that would de-risk LEs' investment decisions on SME-led solutions.

b. PNO as guideline-maker and pilot organizers

As a follow up to the idea of aggregating datasets into PNO's OI Platform and help POs with data sharing issues, the debating groups also suggested that PNO could draft **guidelines** and convey potential SMEs/high-tech startups to collaboratively manage data sharing. Keeping track of the efficiency, as well as the expertise enhancement of the PO and other entities, available project data may be useful in measuring the success of the solutions developed. Furthermore, to improve the cooperation with (young) SMEs, PNO could involve them in collaborative projects, especially with ROs, to allow SMEs to practice collaboration and learn how to work with public institutions.

The mentioned guidelines for collaboration between POs, ROs and private sector should also include details about how to draft/interpret the legislation of procurement (i.e. EU Procurement) and make it into an innovative process of challenge/brainstorming – especially in the pre-procurement phase – to source partners that best fit the collaboration. These activities can be run on/through the OI platform and connected to the **Consultation Boards** described above. Moreover, this may increase trust and would require a balanced bargaining power among players. PNO could help design these guidelines and a procurement process for POs,

as well as offer training and consulting for interested potential partners to help prepare and adapt to the process and projects. The guidelines should also include previous best practices in collaborative projects as benchmarks for evaluation of success. The number of scientific collaborations, successful project, events, patented innovation, could be KPIs to track.

PNO can also offer **management and facilitation services** in the projects resulting from the interactions of the board, the platform, etc. The aim of its activities could be aligning the objectives and constraints of every participant organization, making them clear to each participant and coaching the collaborative group to find compromises. PNO could use its ability to communicate with different stakeholders, its knowledge of the EU and local innovation priorities, and technical expertise of its HRs, along with project management, OI and Design Thinking tools and techniques.

Given all this expertise, PNO can also contribute in drafting **Academia/Industry collaboration guidelines**, introducing factors concerning the academic accreditation systems, national evaluation systems, and internal evaluation systems (KPIs). At the same time, PNO could also support ROs in redesign their internal playbooks and procedures to fit with OI strategies, aiming for a system that shifts its focus from internal to external, in agreement with the needs and evaluation systems coming from industry and the market, more related to the commercial valorization of collaboration results. As the lack of ROs' exploitation capacity often prevents them to connect to industry and solve technology transfer issues, PNO can support the shared design of disclose and commercialization techniques to be tested and implemented in Academia/Industry collaboration. To this end, the OI platform could play a role including some function to ease the diffusion of an open culture in collaboration, possible co-learning processes, organization of training and cross-meetings that can boost collaborative work. Part of this process is also translating and redesigning academic tools into more OI tools, structures, culture, and processes. Pilot versions of these new systems should be negotiated, applied and tested in various iterations, to finally generate more open research projects, partnerships and the active participation of researchers in OI projects with both the private and public sectors.

Conclusions

The brainstorming groups fruitfully brainstormed around different challenging dimensions of OI for the four categories of innovation stakeholders. The bottlenecks identified refer in general to financial, organizational and cultural issues that have traditionally hindered the implementation of OI activities. To these bottlenecks, the groups envisioned original solutions that not only took into account PNO expertise and assets but also the potential of further development of its OI solutions. Interestingly, the groups shared the idea of the need and potential of an OI platform, designed and managed by PNO. Through the platform, PNO could officially structure its role as open innovation orchestrator, capitalizing on its experiences as a multi-actor consortia manager and connector. Moreover, the company could empower its expertise in different knowledge domains to harmonize cross-sector collaborations, fostering OI across different disciplines to tackle big societal challenges.

Solomon Darwin Comments

Based on feedback from the groups, the recommendation stated in the above conclusion for PNO to play the role of an Open Innovation Orchestrator is an excellent one. Yes, to accomplish this and Open Innovation Platform is necessary. The Garwood Center at UC Berkeley, where I serve as the Executive Director, created an is open innovation platform called Smart Village Platform. The purpose of this platform is to create opportunities for SMEs and MNEs in emerging economies – rural villages in India where 70% of India’s population lives. The players on this platform are Governments who post challenges, Universities, Silicon Valley Startups, and Large Corporations. Open Innovation idea creation is happening through collaborative engagement across industries, NGOs, government entities and people on the ground to formulate solutions faster through collaborative pilots to create speed to market. This is a new experiment but we have seen much traction from many firms both large and small to join this platform. PNO can consider such a platform to get an areal view of the ecosystem players associated with posted challenges on the platform to facilitate OI solutions and relieve bottlenecks.

Henry Chesbrough Comments

We are grateful for PNO’s willingness to provide such an interesting challenge. Enough time has passed with open innovation that we can now observe more clearly some of the barriers that impede its adoption, both in Large Enterprises and in SMEs. With this maturation comes the opportunity for PNO to experiment with alternative business models in delivering its consulting services in the open innovation space. In addition to the above ideas, I encourage PNO to consider outcome-based pricing models, where PNO bears some of the risks for the results of their work with the SMEs. There are tricky issues to negotiate this, both ex-ante and especially ex-post. But I suspect that SMEs would be more willing to embrace an open innovation engagement with PNO if the upfront cost to them was lower, and there was a back-end payment contingent on some observable, positive business outcome for the SME. This would have the additional effect of focusing PNO itself on ensuring the realization of that positive outcome for its client and might encourage some additional activities that would normally not be part of the engagement to achieve that outcome.

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Conclusion and Cross-Case Takeaways

The companies holding the industry challenge sections belong to different sectors and backgrounds, come from different countries and are tackling different challenges. Nonetheless, it is interesting to notice that some elements emerging from the table discussions were recurrent in more than one of the company challenges.

Here we summarize common takeaways that can be relevant for any company.

1. Innovation Platforms & Ecosystems

Both the creation of and participation in innovation platforms have been highlighted as crucial in the innovation journey of a firm. The main goal of taking part in platforms/ecosystems is to be an active member of an innovation network, where companies can keep contacts alive and productive, create new linkages and relationships, and orchestrate new collaborative projects. Moreover, these platforms can be not only virtual or physical forums to enable interactions; they could also provide tools to support the collaboration in innovation projects. They can offer a space to launch linking and networking activities, but also crowdsourcing campaigns, along with providing tools such as DSSs, technology/partner scouting, templates, methodologies, processes, KPIs, etc., to guide the development of innovation activities. The platform can also interact with databases of innovation funding sources, actors, patents, policies, etc., but also additional contents (even educational and related to coaching and training). As mentioned, firms can be members/users of these platforms, but also contribute to platforms' activity and, in the best scenarios, orchestrate them securing win-win solutions for all the stakeholders involved.

- a- Ericsson
- b- Salesforce
- c- SAP
- d- PNO Group

2. Data and Other Infrastructures

The relevance of data already emerged in the last few decades and was confirmed in the Industry Challenges at WOIC 2019. Groups mentioned the importance of adequately managing data, using it and eventually making it accessible to partners and even competitors, to fully benefit from data potential. Of course, these opportunities need to be balanced by a full control and protection of sensitive data such as data related to firms' core business. In this scenario, balancing openness and closure become essential for the success of the activities related to data and their exploitation. Moreover, the potential of big data needs to be balanced with the needs of protecting data and privacy. One option can be the local processing of data, especially when protection needs to be tailored on and adapted to different markets/settings.

- a- PNO Group
- b- Ericsson

3. Understanding the Problems and Contexts

In any mature and structured actions that aim at addressing innovation challenges, firms are required to fully understand the problem they are tackling and the contexts in which they are acting. Companies can be impatient in finding solutions to their issues; therefore, they might overlook some details and factors that characterize specific problems in specific contexts. This can lead to complete failures of the identified solution(s). On the contrary, an attentive scope of the problems and analysis of the contexts in which they arise, of the customers and market segments addressed, and of the social, legal and cultural environments to be considered can drive the generation of tailored solutions doomed to succeed.

- SAP
- PNO Group
- Salesforce

4. Company's Ambassadors

Who best to promote new products? Sometimes it is not the company's current salesforce. Indeed, salesforces might fear these new products which come with uncertainties, lack of knowledge about how it works and more important can cannibalize the current products. Instead, the companies find "ambassadors" who will test, use and promote the new products. The list of potential ambassadors is endless: customers, suppliers, internal employees, external consultants. Every company should carefully consider its ambassador programs, to include the right ambassadors at the right time for the right processes. Each identified group has its strengths and weaknesses to be carefully considered. When a company can incentivize the participation of ambassador groups and develops a structured ambassador program, the ambassador's contributions can be used to improve products and services, but also discover the products and services of the future.

- a- SAP
- b- Ericsson

ⁱ Given the complexity of Asian Paints' distribution channel, and the thousands of channel participants in between the company and its end customers, this was a daunting task to accomplish. This solution required a secure Web interface enabling leads from the help line to be forwarded to a home solutions service provider for handling. A service provider might be an independent home painting firm or interior designer, for example, in the Asian Paints network. The home solutions provider (generally the party contracting with the end customer, and collecting the payment for the work) was responsible for using the system to perform all major tasks associated with a job: schedule appointments, record completion of site surveys, submit job estimates, order paints through Asian Paints dealers, record progress of jobs, invoice customers, and conduct customer satisfaction surveys. Asian Paints provided these IT services to its approved Home Solutions partners at no charge.

ⁱⁱ Source: Asian paints case study by SAP, <http://www.sap.com/about/newsroom/news-releases/press.epx?pressid=8640>; and <http://www.google.com/search?q=Asian+Paints&hl=en&rls=com.microsoft:en-US&start=0&sa=N>; last accessed April 28, 2009