Tumble dryers are part of many households – a modern convenience but also an appliance that has one of the highest energy consumption rates. Is there a way to reduce energy consumption associated with this device? At the Dynamic Demand Challenge, an open innovation contest organized by the UK innovation agency Nesta, a noteworthy proposal to solve energy consumption issues tackled this. Participants presented a small laundry app that presents you with the best options for when and how to do your laundry – both washing and drying. The app always prefers line drying outdoors over tumble drying. Based on weather report information the app lets you know whether, for example, there is a chance of rain in the hours ahead or whether it is worth waiting for some sunshine hours expected for later in the day. At the same time, it monitors energy consumption patterns and provides information on highs and lows of energy demand. In the future, the app could become a feature not only of most washing machines and tumble dryers, but also of many other appliances with high energy consumption rates. It is a small step to start with but it has great potential to tackle the issue of energy saving.

More often than not, such innovative ideas do not evolve into products and even less are brought to market, simply because they do not manage to reach a wider audience or potential developers, or because their commercial value is just low. Open innovation has become an important platform that empowers people as it allows them to express and share their ideas.
The Dynamic Demand Challenge is such an open innovation platform. Anyone from across Europe – from amateurs to experts, with any professional background – can share ideas around energy-saving solutions. The best ideas are then invited to take part in a Hackathon, an event during which the teams can test their ideas, build prototypes and elaborate their ideas by designing the steps needed to bring them to market. The final winner receives funding to turn his idea into a commercial product or a social project.

Thanks to the Internet and social media, we are nowadays able to mobilize talent and great minds from around the world to work together on all sorts of matters. This collaboration is one of the main drivers of open innovation. People collaborate on open innovation platforms 24 hours a day, seven days a week; they share ideas, they controversially and thoroughly discuss the pros and cons and add expertise to make ideas more robust. The crowds include pretty much anyone with great imagination or expertise in the respective field.

This article maps out open innovation as a new form of innovation enabled by the rise of social media. It provides an overview of its use in co-creation of anything ranging from products to policies, describes its use in monitoring politics and in open government. It then discusses how open innovation is an answer to organizational barriers to innovation. The next section is devoted to providing practical steps on how to set up innovation challenges and how they can be evaluated.

OPEN INNOVATION – A NEW FORM OF INNOVATION

Innovation challenges, hackathons, external product development are all new phenomena that can best be summarized under the concept of open innovation. For Henry Chesbrough, one of its pioneers, open innovation is:

“Open Innovation is the use of purposive inflows and outflows of knowledge to accelerate innovation. With knowledge now widely distributed, companies cannot rely entirely on their own research, but should acquire inventions or intellectual property from other companies when it advances the business model.”

Unfortunately the concept is very much associated with the business sector only; and in such a way Chesbrough defines open innovation as a process taking place mainly in commercial research and development, reducing it to product development. But we are witnessing a huge global flow of ideas being shared across all sectors, not only business. There is a much greater phenomenon taking place, in which all sorts of organizations, companies and individuals are collaborating in brainstorming processes targeting all sorts of issues all over the world.

Open innovation is therefore a global phenomenon. People share ideas and work together through open and transparent networks, be it for commercial or social purposes, thanks to the ease of online collaboration tools and social media.

Seeking ideas and solving problems is just one of the many facets of open innovation. “Wisdom of the Crowd” processes have taken place in various forms and in many areas for decades. But it is now, in the information or digital age, that they are being exploited at such a fast pace.

One well-known open innovation platform is OpenIDEO, on which global communities can take part in solving any of the various challenges presented on the platform. One such challenge, initiated by development agency UKAID, asked “How might we make low-income urban areas safer and more empowering for women and girls?”

OpenIDEO’s commercial counterpart Innocentive offers companies to externalize their product issues or other particular challenges. Companies that have specific challenges around their product can post them on Innocentive to attract ideas from around the world to collaborate on finding a solution. The person with the best solution proposal earns a sum paid by the company. Danish toy maker Lego has been using this prototype for years. It started involving its consumers to develop new products after realizing that they are often the best product developers. If a product idea reaches a certain threshold within the community, it becomes a selling product and the inventor receives some royalties.

CO-CREATION

People co-create concepts through open content systems such as Wikis – these web applications have led to fascinating examples of collective intelligence. Wikipedia has inspired many organizations to create their own versions or copycats. This is the case of Energypedia, a project of German development agency GIZ.
that combines local and global knowledge to collect experiences and best practices in water and sanitation issues. Another more interesting example, which not only draws upon the Internet but also goes beyond it, is Open Source Car (osvehicle.com). Complete car construction plans are openly and freely available on this website. Construction material is also freely available to a global community of car developers.

Volunteers and political activists also take advantage of the Internet and tech devices such as mobile phones, tablets, etc. to monitor events and issues taking place around the world. Ipaidabribe.com, an anti-corruption project, allows ordinary citizens to send messages denouncing cases of corruption for example, if they have been forced, in order to alert activists of future eventualities, to expose corrupt officials and organisations and to measure corruption. In the wake of the Fukushima nuclear disaster, Japanese citizens set up a network of volunteers publishing radiation levels they measured themselves after trust in official data had collapsed.

OPEN GOVERNMENT

Governments are increasingly realising that they can and also need to communicate with citizens in a different way. Citizens can help provide better solutions for cities, but for that, they need to be included in decision-making processes. For example, in the German city of Nuremberg citizens were asked to locate the noisiest areas of their neighborhood. By jointly identifying these spots, the city administration did not only get a different picture of the problems but could also work on much better solutions.

CROWDSOURCING MONITORING

Volunteers and political activists also take advantage of the Internet and tech devices such as mobile phones, tablets, etc. to monitor events and issues taking place around the world. Ipaidabribe.com, an anti-corruption project, allows ordinary citizens to send messages denouncing cases of corruption for example, if they have been forced, in order to alert activists of future eventualities, to expose corrupt officials and organisations and to measure corruption. In the wake of the Fukushima nuclear disaster, Japanese citizens set up a network of volunteers publishing radiation levels they measured themselves after trust in official data had collapsed.

CROWDSOURCING POLICIES

Organisations use open innovation to design strategy or policies in a collective process. I collaborated with the GIZ in a project developing a policy to govern their sector networks designed by its employees. A policy draft was uploaded to an online open innovation platform. Colleagues from across the organisation were then invited to comment, to give their feedback, to evaluate the different issues and to add their own ideas. During the process, which lasted for a few weeks, participants discussed the various draft proposals and collaborated in improving the final draft and filling in gaps.

Such a policy development normally only work in a top-down process. Or are limited to a workshop, where participants have limited time to digest, discuss, and include those issues that really matter in the specific context of the policy. Through the online process the policy was incrementally improved, re-evaluated and re-written, boosting its significance to the organisation. The major shift here is to use the expertise of a large group of people and channel that expertise into an efficient process with clear results.

In conclusion, all these aspects to open innovation change the way we find solutions and innovate – we collaborate both inside and outside of organisations and regardless of location, professional background and status.

OPEN INNOVATION AS AN ANSWER TO ORGANISATIONAL CHALLENGES

There are reasons for the expansion of open innovation. It is a much needed paradigm shift. For some proponents it is even the only way to solve complex problems in the future. Companies, R&D departments and university research centers, among others, certainly have achieved great breakthroughs in the past. But they have also prevented many great ideas from flourishing or have denied opportunities for other ideas to be exploited. The American computer science professor and entrepreneur Alex Pentland describes in his book “Social Physics: How good ideas spread”, how limited internal cooperation and separated research teams can hinder innovation even in the case of highly innovative companies. Open networks, not companies with hierarchies offer ways for innovation.

These new forms of innovation and business development are much needed as the traditional way of innovation is no longer as efficient. In our competitive era we can not afford wasting creativity, capacity and our colleagues’ expertise. Today, knowledge is the number one resource we need to be in the vanguard.

Proponents of open innovation identify many limitations of its opposite, which is “closed” innovation:

- Quality: The expertise found within a company or organisation is not always sufficient to guarantee state-of-the-art knowledge. One can always draw upon external expertise.
- Resources: Even larger businesses can not
always provide adequate resources for research and development.

- Analysis: Customer-focused products need a holistic view on their potential use, which a company can not assess entirely just on its own.

- Networks: Time and again, organisations fail to provide even an internal culture of sharing and exchanging that allows ideas to flourish.

- Creativity: In traditional structures, mentality is heavily compartmentalized. Their expertise is defined by roles and positions, which hinders creativity; this is contrary to interdisciplinary approaches.

- Business model: Ideas often need their own business model. Many companies do not pursue ideas that don't happen to fit in their business model. Some ideas also might require a non-profit model.

Whereas in the past only larger organisations and companies had access to valuable information and important circles, nowadays small and agile actors are competing with just as great or even better products and inventions. Businesses with traditional organisational structures in particular are confronted with above challenges because a culture of resistance to outside innovation persists. This is also known as NIHS (Not Invented Here Syndrome). Today ideas develop in a global knowledge network, which bypasses any corporate firewall. Organisations that do not open up risk losing a huge and innovative potential. Only few companies are able to re-invent themselves, producing a constant flow of ideas and implement these successfully; some of these rely on external expertise including for product innovation. In this regard, successful companies turn their communication strategies upside down, rendering their boundaries more flexible by letting almost every employee engage in a dialogue with customers, stakeholders, and staff in other departments and in higher positions.

Organisations that network find themselves immersed in a large web of knowledge flows. The more nodes a network contains, the more potential it has. That is a radical shift for intellectual property. Open innovation raises also important questions about the concept of intellectual properties and those experimenting with new business models that spur economic development. The electric car company Tesla recently announced plans to making all its patents accessible to the public. By doing so, it provides expertise for potential partners and competitors. But it also brings external innovation into the organisation. A serious business sharing its most precious competitive advantages such as inventions underlines the revolutionary approach behind open innovation.

The “open source software” movement is acting as a good example to follow as more and more companies and organisations are taking advantage of open innovation. Such is the case of the social programming platform Github, on which software can be shared publicly, allowing anyone to change and improve the programming codes. Knowledge society's main goods are immaterial and can be digitalized, exchanged and be worked on in collaboration. Today’s consumers are also more than just buyers. They are co-creators getting involved in product development as well, for example in sketching a chair, using the free, open-source software SketchChair. The Fablab movement with its focus on easy, home production thanks to 3D printer technology opens up a whole new innovation potential, whereby products are not only invented anywhere, but also quickly produced even in small amounts or for quick fixes everywhere.
The world is confronted with huge challenges, requiring many solutions and ideas. To overcome these challenges, open innovation is not only an option but a necessity in present and future problem solving. Particularly in the non-profit sector many organisations are realizing that they are unable to find solutions to challenges such as climate change or food crises on their own. Problems and their potential solutions are embedded in complex settings. The non-profit sector has been traditionally much more open to finding external ideas and solutions than the commercial sector. Many energy-saving ideas might not have the potential to become commercial products, but can still provide immediate help to those in need. Whoever is willing to contemplate the genuine complexities of project work can not fail to see the need for a broader range of expertise and an interdisciplinary approach.

The United Nations and its different organisations have been experimenting with the field of crowdsourcing and open innovation. UNICEF is one of the pioneers of open innovation, having established innovation labs for example in Kosovo. The organisation has put together idea competitions such as the 72-hour challenge. The first 72 hours during a humanitarian disaster are the most critical ones. Finding solutions to help protect vulnerable people is a major challenge for organisations such as UNICEF.

The International Telecommunication Union takes a similar approach but its innovation challenge targeted business ideas to tackle the often neglected creation of local content. The ITU was “looking for the most promising tech start-ups aimed at inspiring the creation, aggregation or digitization of local content, particularly in non-Latin scripts.” Its community of over 4,000 members has developed 32 serious business ideas. Further more, the UNDP Eurasia has not only requested ideas for alternative energy solutions for rural areas but has also tested new funding models through crowdfunding.

The GIZ has been very active supporting the ICE innovation hubs in Ethiopia and Egypt. These are based in co-working spaces, in which people can share and brainstorm together to come up with ideas on social or development issues. For instance, the creation of an urban garden programme to set up rooftop gardens in the city of Cairo. A similar approach is undertaken by the World Bank that funds innovation hubs to empower entrepreneurs and agents of change with great ideas in various fields and supports existing initiatives across Africa, which experiment with new funding models to reach people with great ideas.

Social Innovation – A New Approach to Tackle Complex Challenges

The rise of social innovation addresses the need for more radically open systems without organisational boundaries, in a bid to find alternative solutions to problems elsewhere and in a more transparent way. Social innovation empowers people and their ideas to:

- Identify needs and problems and create a motivating environment, in which colleagues and stakeholders can openly share opinions to create solutions to the problems that affect them.
- Offer new channels to collaborate constructively and systematically on bottom-up solutions, with the participation of those who will actually benefit.
- Develop ideas in a rapid-prototyping form, apply solutions and jointly learn from the collaborative process and outcome right from the start.
- Be open and consider all potential models to implement solutions, including both commercial and for non-profit (social business) models.

The GIZ has been very active supporting the ICE innovation hubs in Ethiopia and Egypt. These are based in co-working spaces, in which people can share and brainstorm together to come up with ideas on social or development issues. For instance, the creation of an urban garden programme to set up rooftop gardens in the city of Cairo. A similar approach is undertaken by the World Bank that funds innovation hubs to empower entrepreneurs and agents of change with great ideas in various fields and supports existing initiatives across Africa, which experiment with new funding models to reach people with great ideas.
The result is a growing ecosystem for open and social innovation, bringing together various actors from the for-profit and non-profit sector. Open events such as hackathons host programmers and other skilled people for a day or a weekend to tackle specific challenges. Such as the Energy Hackday in Berlin, organized by The Open Knowledge Foundation Germany in cooperation with the utility Vattenfall. At the main event, people developed new ideas using electric consumption data. Before and after the event, Vattenfall worked with different audiences on product ideas and consumer transparency. Similar events have taken place within the open government field. Public administrations have opened their doors to programmers to develop better citizen services such as mobile apps. It is worth mentioning that social innovation transcends these offline events—the collaboration does not end at the event; in contrary, all participants continue to be connected through social networks, on which they keep on collaborating after the event.

**FOCUS AND GOALS**

An open innovation process does not necessarily convey an already visualized end solution or product. Those are normally established or developed throughout the process—with the use of Q&A, brainstorming sessions, discussions, etc. Having a specific and well-defined challenge is important to carry out a productive and uncomplicated process and obtain the best results.

The following tips will help you estipulate in a clear way your challenge:

- The challenge: Start describing it in broader terms and gradually move onto more specific details. The more specific your challenge is, the better others understand it and the better feedback you will obtain. More feedback is not always better feedback.
- Summarizing: Describe your challenge as if you are telling a story. Setting a frame around the whole process is very important.
- Ideas equal solutions: Not all ideas solve problems but many do. Specify which ideas are necessary to approach your challenge. This will keep the process focussed on targets.

- Online, offline, or both: How should the communication process take place? Collecting and discussing ideas works well online. Implementation of ideas needs some stronger commitment and is mostly better done offline.
- Achievement: Lay down where you want to get. Think in terms of a procedural or cultural goal rather than outlining what a successful solution might look like. Be realistic but also open. It is open innovation after all.
- Incentives: Boosting participation and motivation dictates how much knowledge you want participants to share. Bonuses and recognition are forms of incentives. A combination of awards will attract the most participants and get them to share more ideas.
- Potential resistance: You will never be able to predict everything in advance, but studying other projects that have used similar methods may show you how to avoid resistance.
- Participants: Choose. The world is open and yours. Specific skillsets, experts, public in general, specific community, international, local, staff, customers, etc. can all bring the best ideas to your door. Think big if you want online as there is no limit for participants.

The point of incentives is very crucial. Right from the beginning think of the question: Why would people participate? If your answer is “because it is part of their job to do so,” then you will most likely end up where you have started the process. The decision of a company, a department or a person to go down the route of open innovation is about implementing a new way, a way forward. And to get people to move into a new direction it is important to get them out of their comfort zone, to motivate them. Therefore, incentives play an important role in open innovation processes right from the start. In most studies it is shown that prices and money are far smaller incentives than reputation and recognition by other participants. Anyone likes to be recognized for their achievements.

»WE WANT TO FEEL LIKE WE HAVE MADE AN IMPACT IN THE WORLD AROUND US. THIS IS THE STRONGEST MOTIVATOR. WE PARTICIPATE IN A COMMUNITY BECAUSE WE FEEL WE MATTER IN THAT COMMUNITY. WE FEEL WE MAKE A DIFFERENCE«

—RICHARD MILLINGTON, FOUNDER OF FEVERBEE.

The Open Knowledge Foundation Germany took Down Barriers To Social innovation. How does it work? Open innovation in different steps. Taking Down Barriers To Social innovation.
Making sure that participants receive attribution for their thoughts is far more valuable because it triggers intrinsic motivation. Once the proposed ideas are implemented they will receive real feedback for change, creating yet more impact. It is key that these processes have an impact so that all participants really have the feeling it was worth the effort. Too often open innovation contests are focused solely on public relations and less on the ideas itself. Ideas have to develop and that is why a major part of open innovation is about the collaboration around ideas. Sometimes the "losing" ideas, when given a fresh set of eyes, in the long run become great ideas as well.

A voting phase at the right moment can lead to significantly higher participation if contributors have to promote their ideas. Sometimes a private collaboration phase is necessary, during which a person or group can evaluate and go through ideas in private before exposing them to the public for feedback. Good timing, scheduling, and phasing are equally important to have a good sequence and not get deviated. At last, keeping the process under a narrow time frame helps getting enough attention from all participants. If the process extends over too long a period of time participants lose focus.

Open innovation is a journey that needs a fair amount of flexibility. As mentioned above, open innovation processes need to be planned from A-Z, but it is important to bear in mind that during such – needless to say, open and innovative – processes the ideas can not be planned or anticipated. The ideas can flow in all directions; but, on the other hand, they can be managed or shaped to suit our needs. Trying out different ways is the key to finding out what works and what not.

One of the most critical parts of a social innovation challenge is mobilization. You may have an appealing topic or challenge, but if the right people do not know about it, the incoming ideas might not be helpful. Addressing those with passion and competence for the issue at stake is key. That means considering right from the start who the people are you want to attract to the process and how can they be reached. Internet is great for a wide reach of people, but it also may exclude some who are not internet savvy. Workshops on the other hand are a great way of enabling direct exchange and cooperation, but may exclude many who can not travel to the location where it is held. Mobilization means to have a strategy in mind how to reach many potentially interested and helpful participants for your process.

**STEP 1: DEFINE YOUR AUDIENCE**

What is your story and who cares about it? Before you start sending out your message to the masses, you need to narrow down your audience and tailor your message to them.

**STEP 2: DEFINE YOUR CORE MESSAGE**

To get your message across and make your project stand out, tell a good story. Open or social innovation is also about telling good stories. If you are putting open innovation to practice, then you most probably already have a great story in your hands, even if you do not know it yet.

**STEP 3: PROMOTE**

Now it is time to get your message out there. Think both about how to reach your existing networks, and how to reach your target participants. The great advantage of open innovation is that most people love to speak their minds and present their ideas. Tap into all available networks and communities and try to approach new ones.
One of the most important factors for a fruitful open innovation process is high engagement. Collaborators will impact the quality of feedback and ideas. The greater the number of participants and the higher the number of comments, the less intimidating it is for new participants to submit ideas. Two heads are better than one. The more exchanges are happening the easier it is to knock ideas into shape.

Typical online participation statistics look like this: 90–9–1. 90 percent of participants are readers, 9 percent contribute feedback and 1 percent contribute ideas. In my experience, open innovation raises the number of people contributing ideas and commenting to up to 50 percent. This of course makes the process more vibrant, but to do so you need to mobilize as many people as possible and keep the momentum.

Organizers of open innovation contests are in charge of setting the frame for the community; encouraging participants to say more by asking the right questions and providing the right information. This is done both during the event during the run-up to the event by using email and social media. Moderators help weave the threads of the community, normally by enforcing general rules. Moderators tend to be the problem solvers as they are in charge to oversee time frames, the etiquette, and most important, that the conversations remain focused.

Here is some advice on how to facilitate an open innovation process and keep up its momentum:

• Step in if a comment or idea does not get a reply for a long time and ask a follow up question.
• Intervene if discussions get tense and try to clarify things.
• Target people who are not actively participating by sending them private emails. Never in public.
• Keep encouraging active participants to continue engaging.
• Sum up the latest developments in the process with a weekly newsletter.
• Encourage top managers or other stakeholders to engage in the discussion.

MEASURING OPEN INNOVATION

Although it is not always easy to anticipate the results of open innovation, it is possible to measure the process itself. It is important to do so for two reasons:

1. It is important to evaluate ideas during the process to follow up on those emerging as possible solutions to the problem.
2. Evaluation metrics can provide insight on how strong participation is and into which direction it is evolving. This allows taking necessary steps, such as more intervention.

An evaluation framework helps setting goals and elaborate more before the process starts, and keeping track during the process. Furthermore, it shows you what resources are needed to create a broader open innovation environment. Here are examples for metrics:

QUALITATIVE METRICS

• Quality of ideas – to which degree do they match a solution for a problem, do they include a sustainable concept, are they easy or difficult to implement, do they fit to the given criteria?
• Quality of dialogue – diverse, constructive, and creative comments and ideas.

• Diversity of participation – diversified skill sets among participants; different technical or professional backgrounds.

• Representation – the hierarchical levels that participants represent - lower, middle or upper management, or all of these.

• Number of participants versus the number of ideas – the ideas proposed match the number of participants.

• Number of votes – the voting result is representative of the total.

• Number of comments – the ratio of contributors to ‘lurkers’ and the ratio of ideas to comments.

• Number and frequency of website visits – number of times ideas were read.

CONCLUSION

Open innovation is nothing new. Innovations have always openly been achieved despite boundaries and across organisations. It is a fact that ideas always evolve from exchange – the reason why Steven Johnson, author of the book “Where good Ideas come from”, sees coffee houses as true idea labs.

“This is not the wisdom of the crowd, but the wisdom of someone in the crowd. It's not that the network itself is smart; it's that the individuals get smarter because they're connected to the network.” Steven Johnson

The reason why open innovation is popular nowadays is because it empowers us to access new ideas and the social networks build around them, which was not possible before. Innovation hubs act as network nodes with open doors and work in the same way as innovation challenges. People from different disciplines and with different passions come together around a shared purpose. This is the best recipe to bring ideas to fruition.

We are constantly witnessing the creation of idea networks, which allows to exchange success stories but also lessons learnt from failures. British author Charles Leadbeater in this context refers to systemic innovation and predicts that “systems innovation will become the most important focus for companies and governments, cities and entire societies.” In the last decade there has been a growing focus on product and services innovation as a source of competitive advantage.

Open innovation communities go further by experimenting with new business models for profit and non-profit and different financing models such as crowdfunding. This evolving ecosystem has great potential for organisation and companies to tap into the immense knowledge that an organisation can hardly provide on its own. It helps develop products directly with consumers and beneficiaries. The logic of open innovation also provides a path for organisations to avoid the innovation gap. If they are willing to bear the consequences such as an open source culture and other new models of cooperation they can keep up with the rapid pace of innovation and equally establish new forms of communication structures.

Open innovation is a process to shift an organisation or company to a different mindset of exchanging. It is not a tool that can just be implemented over the same communication bedrock, on which a company normally works. Rather, it is a different way of communication, including people and valuing their ideas. It is believing in each participant having expertise or experience to be shared for innovation. It means changing hierarchical communication structures into horizontal ones and for the management to above all start listening and setting the right environment and incentives to let people exchange as much as possible and brainstorm in all directions. Empowering people does not make us weaker, on the contrary, it makes us richer as we benefit from what others build with that empowerment.

QUANTITATIVE METRICS

Taking Down Barriers To Social innovation Brochure 07/10
Christian Kreutz is an author, speaker, strategic advisor and expert in open and social innovation. He has been advising for over 10 years organizations such as the World Bank, GIZ, UNDP, Nesta, Deutsche Welle and the Bertelsmann Foundation, providing them with the necessary insights and tools to build their corporate innovation capabilities. As the director of Crisscrossed GmbH, he has developed various projects such as WE THINQ (www.wethinq.com) – a social software for change makers to empower citizens, employees and stakeholders to asses challenges and find creative solutions through new forms of cooperation. He believes in the power of transparency and holds the potential of open and shared knowledge as the foundation for sustainable innovation. He writes about his journeys on social innovation and the use of information and communication technologies centered on people on his widely cited blog www.crisscrossed.net.