



Open Innovation Platform Case Studies

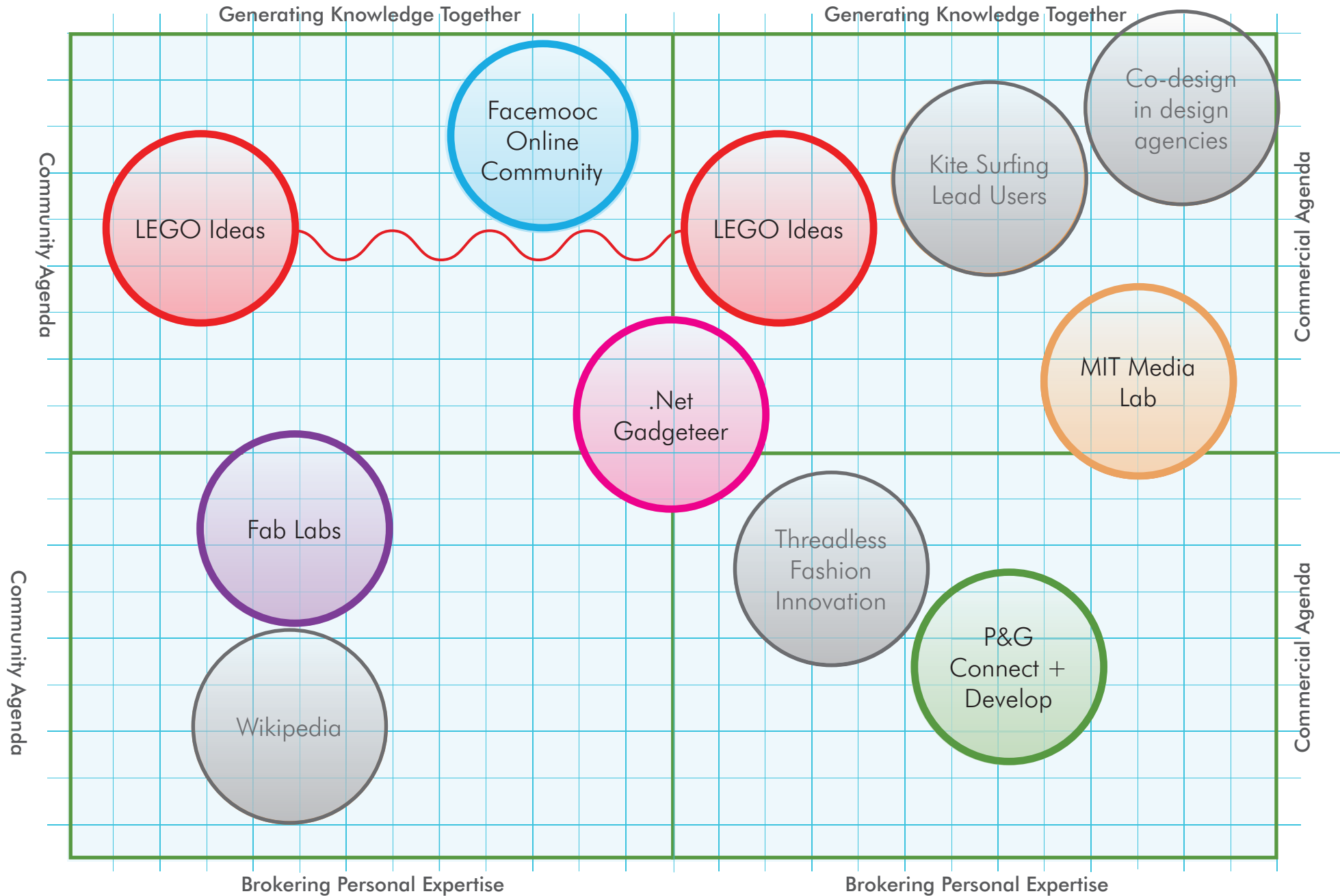
As part of the OpTex project for Innventia, ImaginationLancaster at Lancaster University have put together a collection of case studies of existing open innovation platforms, which include Fab Lab, Facemooc Online Community, Lego Ideas, MIT's Media Lab and Procter Gamble's Connect + Develop.

These case studies has been selected because they cover a variety of different approaches to open innovation, which have been mapped on open innovation landscape.

The case studies will help inform the development of Innventia's own open innovation platform for textile-like materials made on a paper machine.

Open Innovation Platforms

For us an Open Innovation Platform is a structure that facilitates multiple instances of open innovation. This could be a process, a technical capability a website or an organisational structure.





What Exactly Is It

Officially Fab Labs were centres accredited by MIT's centre for bits and atoms but the term has become adopted by any open access space where a member of the public has free access to digital production and manufacturing technology (3D printing and laser cutting).



Open Innovation Characteristics

This is an open community; there is no central figure for training people apart from how to use the equipment safely. New knowledge is developed through peer exchange. Participants sign up to a code of practice that encodes this through behaviours such as a central repository for code and files that is open to all. Documentation describing the items made and instruction on how someone else could make them are publicly available.



Who are the Key Stakeholder Groups?

A small team of technical/support staff, citizen participants with a high proportion of students and young people but also a wide spectrum of makers. Companies can pay for dedicated time on machines and this is a key part of the business model of Fab Labs.



Motivation for Initial Development

An academic and practical desire to place the means of production in the hands of the masses through the exploitation of new digital manufacturing processes.



Motivation for on-going participation

There is a strong movement to open up the means of production. For participants it's an opportunity to make something specific to their needs or for the needs of others.



Benefits for Developer or Platform Owner

While there was an attempt to have officially accredited Fab Labs controlled by MIT this idea is fading away as centres pop up across the globe. There is no coordinating partner or owner. Having said this, MIT get a lot of reputational benefit for instigating this.



Benefits for Participants

Practical benefits in terms of skills acquired, networking and the creation of physical objects that would otherwise have been impossible.



Outcomes, Impact or Results

There are over 400 Fab Labs registered with the Fab Lab foundation. This network of making facilities is contributing to a culture of digital DIY and customisation.



Strong Points

There is a strong demand for access and experimentation with the technologies found in the Fab Lab. The openness recognised in the charters used by Fab Labs encourages open collaboration.



Weak Points

- The openness of Fab Labs and availability of code and models is not policed and only happens in a patch way.
- The financial model for Labs is tenuous and often under the surface there is a large degree of subsidy from institutions such as Universities.



Lessons Learned and Responses for Open Innovation

Technology in an accessible form can attract active communities of makers, enthusiasts and companies. There is a very fine balance in making resources available for free to lower barriers generating excitement and having a profitable business model.



Approach to IP

Open Source/Creative Commons (unless paying for private access)



Links and Resources

The Fablab Foundation: <http://www.fabfoundation.org/fab-labs/>

Fablabs at MIT: <http://fab.cba.mit.edu>



What Exactly Is It

Facemooc is a platform for collaboration and learning that uses a closed Facebook group for its infrastructure. It has run very successfully with 40 participants from around the world, understanding and then collaborating on innovation challenges in the area of co-design. It is a model that can be replicated for almost any innovation challenge of subject area. This approach offers an online platform with very low barriers to entry in terms of set up and participation.

There was a facilitated 5-week course and then the platform administration and maintenance was given to the participants and the initiating partner withdrew.



Open Innovation Characteristics

This approach brings together experts in a field with experienced professionals to develop new knowledge and experience in an area. This involved seeding the platform with very high-level insights and understanding but also much of the information, understanding and resources came from the participants through peer-to-peer exchange. The result is a very rich collection of new knowledge and understanding and through group projects new innovative ideas developed collectively.



Who are the Key Stakeholder Groups?

Experts in a area providing high level input, experienced professionals looking to expand their knowledge and experience, facilitators and mentors (to help with group work) Motivation for Initial Development



Motivation for Initial Development

This was part of an EU project called PROUD. In particular Facemooc was developed as an alternative to physically located master classes and also traditional teleconference seminars.

Participants paid a small deposit (€50) that was returned to them on condition of active participation, this was very effective in just nudging people to stay involved.

The resulting model was also found to be an excellent way of collaborating on collective new knowledge production.



Motivation for on-going participation

The group of 40 participants are an active community, the platform is still well used and a site for knowledge sharing and discussion.



Benefits for Developer or Platform Owner

There is a new transferable model for online collaboration and knowledge sharing.

The new community that developed around the Facemooc is a very useful network for further open innovation activity.



Benefits for Participants

Knowledge exchange with expert input as well as exchange with peers.

On-going participation in a community of like-minded people.



Outcomes, Impact or Results

A new active community for further open innovation is a significant impact, as is a model for creating new subject specific networks.



Strong Points

Facebook has excellent, world leading systems for encouraging interaction and engagement, appropriating these allowed for a much richer more dynamic experience that would have been possible with a bespoke platform.

There were no technology costs at all in terms of developer time, licences or hardware.



Weak Points

Facebook is not well regarded as a professional environment in some sectors of the business community.

It's not easy to get the huge volume of rich resources developed out of Facebook.

The system is subject to Facebook's terms and conditions and these can be changed at any time.



Lessons Learned and Responses for Open Innovation

Facebook is so easy to engage with that it's very possible to have too much engagement and contribution from participants resulting in information overload.

Expert content and skilled mentors were critical to the success of the 5-week course.



Approach to IP

Open with Creative Commons used throughout.



Links and Resources

http://imagination.lancs.ac.uk/news/CoDesign_FaceMooc



What Exactly Is It

The LEGO Ideas website allows fans to upload an idea they have for a new LEGO set, which uses existing LEGO bricks. Ideas that receive over 10 thousand votes from members of a community have a chance of being developed into an official Lego set.



Open Innovation Characteristics

This is an open community where LEGO enthusiasts can innovate, support and share ideas. Initially the reviewing and filtering of ideas is open to the community but the website then acts as a portal for LEGO to gather ideas and develop them in a closed internal process.



Who are the Key Stakeholder Groups?

The LEGO company and within that a review panel made up from people from marketing and design. Enthusiastic LEGO fans who build very elaborate models and a community of fans that engage with voting and commenting on the ideas.



Motivation for Initial Development

In 2003 LEGO were struggling to make enough profits, which forced them to develop the digital side of the brand and focus their brand on people. In 2008 LEGO and a Japanese company called CUUSOO Systems started a crowdsourcing experiment called Lego CUUSOO, which launched worldwide in 2011. By 2013, there were 5500 proposals, which motivated Lego to fully integrate it into their brand in 2014, launching the LEGO Ideas platform. (Garrigos-Simon et al, 2015)



Motivation for on-going participation

The challenge for any lego brick set designer is to receive 10,000 votes from peers in the LEGO Ideas communities within a time period of a year (although recently reaching various milestones wins more time). LEGO also has a community points system called Clutch Power, which is achieved through supporting, sharing and creating on the website. The more Clutch Power the higher the community member's rating.



Benefits for Developer or Platform Owner

LEGO benefit from thousands of fresh and original ideas for Lego sets. The community voting function of the website filters the ideas for Lego showing which are most popular.



Benefits for Participants

Participating gives enthusiasts an opportunity to be creative and showcase their ideas. If a creator's idea is chosen, they gain the prestige of having their idea developed into an official LEGO set and sold worldwide. They are given credit for their idea and receive 1% of the profits.



Outcomes, Impact or Results

Since its launch in 2014, LEGO ideas has released 9 sets created by the website community.



Strong Points

- LEGO can source ideas for new sets from the fans that buy them.
- The creators and supporters in the community drum up support across the Internet and their networks for their creations, which is free promotion for LEGO.
- The voting system means that when an idea qualifies to be evaluated for its potential to be developed, LEGO already has an indication that the set is popular and likely to be successful.



Weak Points

- LEGO are relying on their fans to innovate, therefore there is a danger if the creators decide they are not being fairly compensated for their ideas, that the number of ideas submitted will decline quickly.
- LEGO do not offer any compensation for further sets produced from a creator's idea, which could potentially cause negativity amongst the community.
- There is already a spin-off community platform called CUUSOO Brick, which aims to be more open and has retained some of the users after LEGO moved from CUUSOO to their own branded Ideas platform.



Lessons Learned and Responses for Open Innovation

LEGO Ideas works on a yearly cycle to evaluate popular ideas and develop them. They have recently learnt that a year is not enough time to achieve 10k votes, therefore they have made it possible to earn more time. Lego have guidelines for what ideas are acceptable. Through experience, Lego have recently made these guidelines more detailed.



Approach to IP

The creator is given credit for their idea if it is chosen but any follow on sets in a series are licensed to LEGO with no compensation to the original creator.



Links and Resources

<https://ideas.lego.com/>

Organizational Learning with Crowdsourcing: The Revelatory Case of LEGO, Schlagwein & Bjorn-Andersen, 2014



What Exactly Is It

MIT Media Lab is a world leading research centre focusing on creative computing and media. It is a rather a maverick unit of Massachusetts Institute of Technology. Media Lab has an annual turn over of \$45 million.

'At the Media Lab, the future is lived, not imagined. In a world where radical technology advances are taken for granted, Media Lab researchers design technologies for people to create a better future.'



Open Innovation Characteristics

Media Lab is funded mostly through a consortium subscription model where companies pay an annual fee. This gives them access to the research labs, all IP from across the lab and special events only for members.

There are also opportunities (with additional funding) to place a member of staff from a company into the Lab to work on projects for a period of time.



Who are the Key Stakeholder Groups?

Researchers and academics employed by MIT or through research collaborations.

Students (postgraduate and doctoral) working on projects in the lab.

Companies who are members of the sponsoring consortia (around 80 at any one time, including IKEA, Cisco, Coca-Cola and Unilever)



Motivation for Initial Development

The lab was set up by Nicolas Negroponte in 1980 to explore the future of what became the digital revolution. The consortia model allows free exploration of ideas and concepts without having to follow trends in funded research opportunities.



Motivation for on-going participation

Media Lab has an extremely strong brand and produces world-leading research. This attracts a great deal of desire to collaborate with the lab from similarly prestigious partners globally.



Benefits for Developer or Platform Owner

The strong brand, excellent research and freedom to be curiosity driven have very strong advantages for MIT Media Lab.

This has helped to develop a highly distinctive and globally recognised research centre.



Benefits for Participants

MIT Researchers and students are building their careers. Company participant benefits are more variable and harder to quantify. There is the reflected glory of being in the Media Lab club, with visiting rights, special events and IP rights. The tangible benefits are harder to assess.



Outcomes, Impact or Results

These include world-leading research, and an ecology of innovation tied into the sponsoring companies.

There are over 30 research groups within MIT media lab covering areas as diverse as Social Computing, Design Fiction and personal robotics.



Strong Points

There is a virtuous circle of funding, attracting excellent staff and students and allowing them to be curiosity driven that feeds a brand that attracts companies.



Weak Points

Funding is based on attracting sponsoring companies and the reality is that this does shape research directions. Also there is a great deal of pressure to produce examples of research that are exciting and dynamic in a 5-minute showing. Business development managers take tours of prospective sponsors around the Media Lab building, seeing a series of 10-12 demonstrations as part of the selling process. Often great research is not amenable to being presented in a quick 5-minute demonstration. The danger is that research is skewed towards the spectacular.



Lessons Learned and Responses for Open Innovation

The challenge in thinking about this model is how to construct a virtuous circle that is sufficiently attractive and has sufficient critical mass to attract company sponsorship. The access to all IP provision is attractive but could make undertaking research with other IP arrangements (say a H202 project with external partners) problematic.



Approach to IP

Open IP access to members of the consortia facilitates an open, collaborative, creative atmosphere in the lab when only members are present.



Links and Resources

<http://www.media.mit.edu>



What Exactly Is It

Gadgeteer is an open source system of hardware, software and cases that allow people with only a minimal technical knowledge to make their own bespoke electrical products, for example cameras, MP3 players to more complicated products like printers or robots with basic AI-like capability.



Open Innovation Characteristics

This is an open network that combines SMEs, citizens, individuals as developers and researchers. There is no controlling 'parental' partner. There are overlapping networks of community users and also companies drawing on the expertise of these communities and selling to them.



Who are the Key Stakeholder Groups?

Researchers, designers, hobbyists and electronic component manufacturers.



Motivation for Initial Development

This was initially a research project and was further developed in Microsoft Research Cambridge UK as an in-house prototyping system for their social innovation lab. This allowed researchers there to build sensor-based prototypes for use in the outside world. There was a strong demand from external partners who collaborated with the lab but it was not commercially viable for Microsoft so Gadgeteer was made open source. Gadgeteer exploits .Net a programming language that was licenced by Microsoft for use in devices such as supermarket checkouts but was itself made open source as sales fell.



Motivation for on-going participation

Specialist electronic hardware companies encourage Gadgeteer users to suggest new hardware components and collaborate with them to develop and release these commercially. Designers and students use the system to prototype their ideas for new products. Hobbyists can develop their own bespoke products for their own use or for sale.



Benefits for Developer or Platform Owner

There is no single owner or developer of the platform. It is a loose network of online resources, forums, online shops and social media sites.

Microsoft gets a practical and reputational benefit but does not own the platform.



Benefits for Participants

Participants can quickly and cheaply develop their own one-off products.



Outcomes, Impact or Results

- New hardware (sensors, circuit boards, power supplies)
- New software/code for sharing amongst communities.
- Designs for new enclosures/packaging/boxes to accommodate the connected components that make up the new products.



Strong Points

- This is a genuine, decentred community-led platform, so it is robust and resilient.
- There is a proven demand for the capabilities offered by Gadgeteer.
- It's a platform for further innovation and product development.



Weak Points

There is not a great deal of benefit for the originating organisation. The lack of a leader partner makes curating and quality control of the open source components more difficult.



Lessons Learned and Responses for Open Innovation

Active and motivated 'lead users' can create a self-sustaining open innovation network if the outcomes are tangible and useful enough.
.Net demonstrated that being made open source is not a sign of immanent terminal decline as was assumed by Microsoft employees.



Approach to IP

Openness of the platform in terms of IP is protected through open source and creative commons licences.



Links and Resources

- Gadgeteer resource website: www.netmf.com/gadgeteer/
- An example of a Gadgeteer component supply company.



What Exactly Is It

Connect + Develop is Procter and Gamble's (P&G's) approach to research and develop that connects with the outside world. The Connect + Develop website acts as the company's "open front door to the world", enabling innovators worldwide to submit their ideas to the company.



Open Innovation Characteristics

This is an open problem space where anyone can address the challenges P&G identify or make suggestions for new challenges. It is a portal leading to a more traditional collaboration between companies and P&G where potentially successful approaches are identified.



Who are the Key Stakeholder Groups?

Procter and Gamble own the platform. A core team of manages the idea submission process and relationships. There is also a team for reviewing and evaluation every idea that is submitted through the website. Anyone worldwide can submit an idea through the website. This includes other large companies, small companies, entrepreneurs, academia and research groups.



Motivation for Initial Development

Procter and Gamble's R&D approach referred to as 'connect + develop' was a reaction to their low sales in the 1990s. They realised they needed to listen to people in the outside world in order to innovate in a highly competitive, fast moving market.



Motivation for on-going participation

If there is potential for an idea or new technology, P&G will work together with the creator to develop it into a marketable product.



Benefits for Developer or Platform Owner

Procter and Gamble owns the platform and benefits from more than 20 idea submissions to their website every weekday, which feed into the categories of needs that they list on the website. This gives them access to new technologies and user innovation that would otherwise be very difficult to reach.



Benefits for Participants

P&G is big and this means that they can offer many options and opportunities for ideas. If an idea does not fit within any of the need categories, P&G will still accept and evaluate the idea.

The global company has a vast pool of knowledge in research, marketing, distribution, sales; consumer understanding and manufacturing that collaborator can tap into.

P&G are offering partnerships and aim to deliver a win:win for themselves and partners.



Outcomes, Impact or Results

In over 10 years since its launch, 'the Connect + Develop programme has developed more than 2,000 global partnerships, delivered dozens of global game-changer products to consumers, accelerated innovation development and increased productivity, both for P&G and its partners.' (Connect + Develop website, 2013)



Strong Points

P&G put a call out for specific need areas including 'packaging innovation' and 'beauty and grooming'. Users submit ideas under these headings, which acts as a filtering process for P&G. They do however accept ideas that do not fit under those headings.



Weak Points

There is a danger that competitor companies could set-up a similar platform and offer potential collaborators and inventors more benefits for sharing.



Lessons Learned and Responses for Open Innovation

P&G have identified that before Connect + Develop 'they did not always benefit from its existing knowledge and did not listen to, and learn enough from the outside world.' (Dodgson, Gann & Salter, 2006)



Approach to IP

P&G's approach to IP is that they're 'committed to doing the right thing'. They stress that no submission should contain any confidential information.



Links and Resources

<http://www.pgconnectdevelop.com/>

The role of technology in the shift towards open innovation: the case of Procter & Gamble, (Dodgson, Gann & Salter, 2006)