

WORLD LIBRARY
AND INFORMATION
CONGRESS:
78TH IFLA GENERAL
CONFERENCE
AND ASSEMBLY



External Knowledge Inflow by Open Innovation in Public Libraries

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Session:

**141 — Potential of knowledge management in public libraries —
Knowledge Management**

Abstract:

The development of a knowledge based economy and knowledge based organizations requires changes in intra-organizational processes by increasing collaborative activities and knowledge-sharing to be innovative.

The successful concept of open innovation in many industries (Apple, Bosch, Fujitsu, Lego, Siemens, Swarovski etc.) shows that a lot of externals are bursting with comments, criticisms, knowledge, ideas, and interests for an opportunity to share them. Therefore accessing knowledge from external channels and sources can enhance the innovation performance of a firm or organization (library).

Modern innovation management requires these integrated structures. Social community network structures can promote innovation management in the sense of open innovation. Only by cooperation it will be able to develop suitable innovations for the customer in future and to enhance the own knowledge base. Otherwise one will run the risk to be not innovative or developing innovations not wanted by the customer. Therefore accessing knowledge from external channels and sources can enhance the innovation performance of a firm or organization. "[...] a company's most important source of ideas is its own customers. This is the finding of a study conducted by Grant Thornton International. Almost half of all respondents in the Asia

Pacific region said customers were an important source of innovation, compared to 40 percent in Western Europe, and 35 percent in the U.S.”¹

Knowledge and innovations (ideas) depend on the human resource capacity which is often quite limited in public libraries. But especially public libraries with their customers from all sectors and branches have the potential to become and to be a vital space to engage in collaborative innovative projects creating and sharing (new) knowledge. Therefore especially the customers of public libraries can be potential knowledge and innovation creators.

Therefore there are the possibilities to integrate open innovation as a knowledge strategy of a public library to generate new information services by customers with best quality in the sense of subjective quality defined by the customer as well.

Introduction

Innovations are essential for securing and expanding a company’s position in the market.² In times of decreasing budgets and shorter innovation cycles innovation management becomes more and more important to reduce the failure rate of innovations.

Following Schumpeter’s theory³, innovation is:

- 1) the introduction of a new good [...] or of a new quality of the good [...],
- 2) the introduction of a new method of production [...],
- 3) the opening of a new market [...],
- 4) the conquest of a new source of supply [...],
- 5) the carrying out of the new organization of an industry [...].

Innovation, according to Rogers is “an idea, practice, or object that is perceived as new by an individual or other unit of adoption”⁴. But this definition is lacking one important aspect: the successful market launch. This last aspect primarily depends on the precise fulfilling of customer’s expectations and requirements.

Closed and Open Innovation

Closed Innovation

In the case of innovative needs, ideas and concepts, the methods of traditional market research or customer surveys are not sufficiently effective. Therefore “closed“ innovation processes are normally restricted on the creative input and the knowledge of a small group of experts within the institution. In libraries the innovation input normally comes from the leadership. But there is a big risk: the risk of developing

¹ Siemens 2010

² Larson 2001, p. 10

³ Schumpeter 1934, p. 66

⁴ Rogers 2003

only a few or the wrong ideas not considering the customer's expectations and requirements. And the smaller the unit, the higher the risk.

Information needed in the innovation process

In the scope of innovation every library needs two forms of information:

- Need information: Information about market and customer needs and requirements.
- Solution information: Information how customer needs can be implemented efficiently and accurately.

The need information is normally found out by customer or non-customer interviews. The solution information can, however, be only extremely seldom questioned about this. But customers are often passively or actively involved in the service process and have influence on the quality of the service. Therefore it seems obvious to integrate customers into the innovation process actively.

Open innovation

Customer innovation exists already for a long time, however, normally it runs without the knowledge of the producer: Tools, everyday objects etc. are frequently adapted by customers on their own individual needs, but the enterprise doesn't know and hear anything about these activities. Customer innovation is frequently the result of unfulfilled needs by the manufacturer / supplier.

Chesbrough defines open innovation as "[...] 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. Open Innovation combines internal and external ideas into architectures and systems whose requirements are defined by a business model."⁵ And 2006 he specifies: "Open innovation is the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively. [...]"⁶ External entities on the way from traditional research and development (R&D) to modern collaboration and development (C&D) can be: competitors, customers, experts, partner organizations (libraries), sources outside the own branch, suppliers, universities etc.

⁵ Chesbrough 2003

⁶ Chesbrough 2006

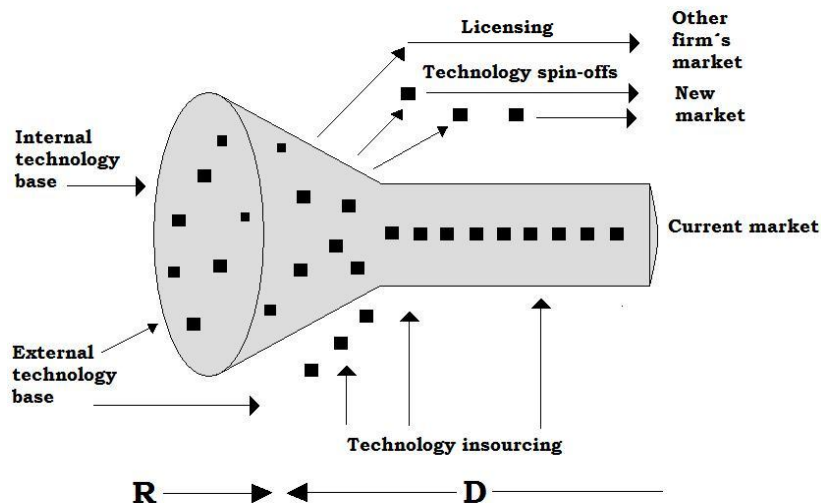


Fig. 1: Open Innovation⁷

The figure shows that open innovation is more dynamic and flexible. Innovation is based not only on internal knowledge, it based on the knowledge of the community and this cooperation of internal and external knowledge generates a lot of new ideas. The boundaries between companies (libraries) and the external community become permeable: "The inbound aspect of open innovation relates to the sourcing of technology and knowledge from outside partners - suppliers, customers, competitors, universities and research organisations."⁸ Gassmann and Enkel⁹ reviewed a total of three dimensions of open innovation:

- The *outside-in* process: sourcing and integration the external knowledge of customers, suppliers, universities and research organisations, competitors, etc.
- The *inside-out* process: bringing ideas to market, selling/licensing intellectual property and multiplying technology.
- The *coupled* process: the outside-in and inside-out processes combined, working in alliances with complementary knowledge.

The outside-in and the coupled process helps to close the gap of knowledge in special fields of expertise and technology.

The following are examples of successfull open innovation projects:

- Open Innovation: an event at the British Library¹⁰
- How to Build an Innovation Ecosystem?¹¹
- Smart Design Contest: Design your Smart¹²

⁷ Chesbrough 2006, p. 3

⁸ OECD 2008, p. 21

⁹ Gassmann, Enkel 2004

¹⁰ British Library 2012

¹¹ Burke 2011

¹² SMART 2010

- LED - Emotionalize your light¹³.

External knowledge inflow by open innovation

“Open innovation is about knowledge exchange. Everything else is secondary.”¹⁴

Knowledge seems to be the main strategic and valuable resource for every organization. But knowledge is not static it’s dynamic: the innovative knowledge from today becomes the key and core knowledge of tomorrow. Therefore continual learning and knowledge acquisition is fundamental. Also libraries have viable competitors and must have core knowledge at any time to remain competitive.

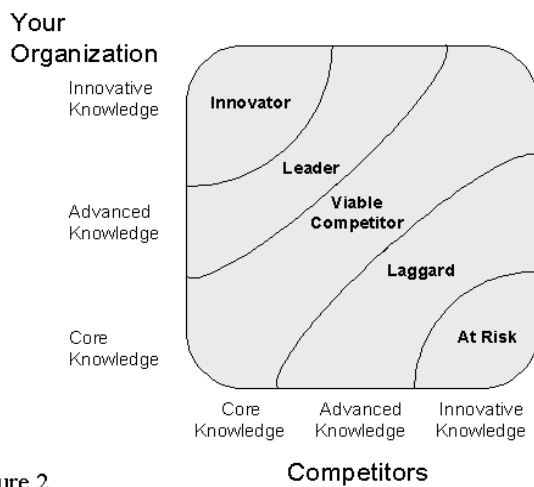


Figure 2

Fig. 2: Strategic Knowledge Framework¹⁵

Figure 3 shows the knowledge and strategic gap: the level of knowledge determines the strategic action in the sense of innovation. And there is a direct relationship between the knowledge and the strategic gap.

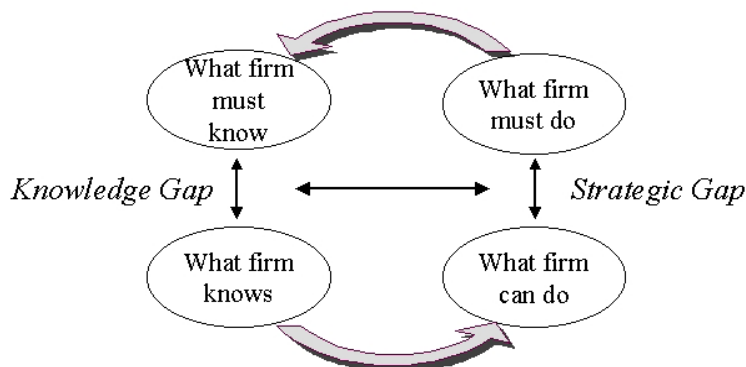


Fig. 3: Strategic and Knowledge Gap¹⁶

¹³ Osram 2009

¹⁴ Hansford 2011

¹⁵ Zack 1999

De Sousa affirms "innovation can be defined as the outcome of a set of activities that use knowledge to create new value to those benefiting from its use."¹⁷ And there is a movement from internal innovation (knowledge) management to external collaboration and connections (open innovation).

Open innovation and public libraries

"Thousands of libraries in Germany are run by just one librarian. [...] Here we have a single person doing all the work that is normally shared between several people in larger libraries. A one-person librarian thus requires a very wide range of skills in order to be able to do the job successfully."¹⁸ These aspects are not only typical for one-person libraries, they are typical for many mid-sized public libraries.

Technological innovations are introduced to the library with the intention of providing better library services and increasing efficiency of library work.¹⁹ "The library profession attracts individuals of varying ages, varying degrees of experience, and a range of technological capabilities, all of which influence the way they perceive new information and communication technologies. It is the role of librarians to introduce new technologies to library users."²⁰ This applies not only for IT but also for many other technologies and branches which are relevant for libraries. This can be illustrated by the Gartner's Hype Cycle.

¹⁶ Zack 1999

¹⁷ De Sousa 2006

¹⁸ Plieninger 2012

¹⁹ Rubin 2004

²⁰ Rabina, Walczyk 2007

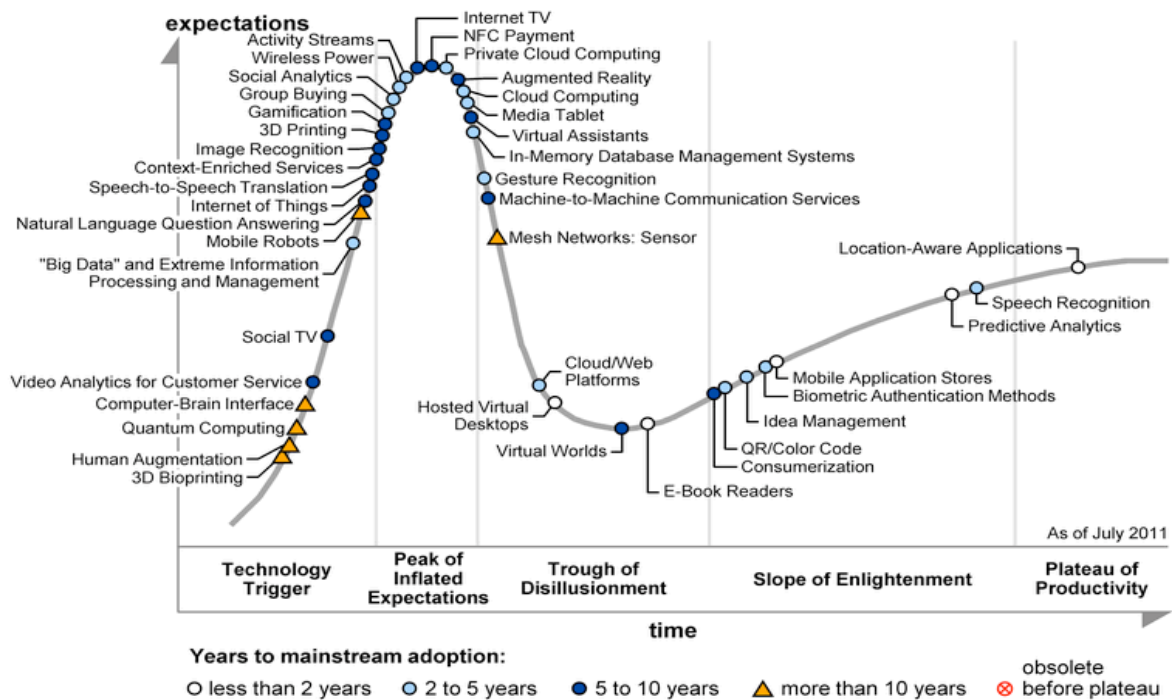


Fig. 4: Gartner Hype Cycle 2011²¹

"Hype Cycles help organizations understand the landscape of technology maturity and markets, and to decide which technology innovations to adopt, postpone or ignore, and when is the time to adopt."²² For example: "800 expert analysts cover 1,200 topics across the IT landscape."²³ And libraries have to observe many trends without being a specialist in any of these fields.

Knowledge and innovations (ideas) depend on the human resource capacity which is often quite limited in public libraries. Leifer et al. formulated it as follows: "You need a great team of people with diverse skills to perform a symphony well, but no team has ever written a great symphony! While cross-functional teams are key players in defining and implementing incremental innovation projects, cross-functional disruptive individuals tend to be key players in defining radical innovation projects"²⁴. But especially public libraries with their customers from all sectors and branches have the potential to become and to be a vital space to engage in collaborative innovative projects creating and sharing (new) knowledge. Therefore especially the customers of public libraries can be potential knowledge and innovation creators. The central and main advantage is that by considering and encouraging the ideas and solution knowledge of a large number of individuals (customers of a public library), new creativity can be brought into the library.

Big libraries are more and more experienced in innovation management, small and medium sized libraries in contrast usually only have basic or no knowledge about

²¹ Gartner 2011
²² Gartner 2011
²³ Gartner 2012
²⁴ Leifer et al. 2000

innovation management. But the number of knowledge-intensive communities, in which people and organisations share and develop common knowledge, is growing. And there are a lot of advantages for sharing knowledge by open innovation:

-U
using the experience and knowledge of customers
-I
increase market acceptance of new products / services
-I
improving the image
-M
more personalized services
-E
early awareness of new (market) trends
-I
increased consumption of the entire range of services
-I
increased customer loyalty
-R
reduction of development costs
-R
reduction of acquisition costs.

The point „using the experience and knowledge of customers“ seems to be the most important aspect.

And the potential risks are in fact no risks for public libraries:

-H
high coordination effort by the library
-I
ignorance (knowledge) of the external innovators
-I
innovations of the external innovators based on their own benefit only
-L
lack of involvement of the external innovators (quantitative)
-L
lack of engagement of the external innovators
-L
lack of project and time management of the external innovators
-L
loss of know-how, for example to competitors.

Therefore libraries should try to integrate open innovation in the own strategy to support the own knowledge management by external ideas and knowledge.

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