

JAPANESE OPEN INNOVATION IN SILICON VALLEY: INNOVATION OUTPOSTS AS EFFECTIVE WAYS OF ABSORBING INNOVATION INTO CORPORATE ECOSYSTEMS

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Abstract. *We define open innovation as a business management model for innovation that promotes collaboration with people and organisations outside the company. This research illustrates how Japanese companies focus on collaboration, ecosystem development, and user integration to initiate social innovation opportunities. The authors worked with investors, key executives, and business architects from NTT Docomo Ventures, Inc. to underpin the main characteristics of their social innovation strategy and to determine how their organisations draw from experience in user engagement and their corporate philosophy to create sustainable business models and to develop a unique and long-lasting value proposition.*

Keywords: *Organization, Transformation, Sustainability, Talent, Strategy, Ethics*

1. BACKGROUND

The term *innovation* has been defined in many different ways. Innovation comes from the Latin word *innovat*, which means to renew or alter. The combination of *in* and *novare* suggests, "to come up with something entirely new" (McKeon, 2014:XXIX). Analysing the innovation concept, Wulfen (2018:01) indicates that innovation can appear in many forms. Innovation is frequently associated with product development or new technological inventions. But it can also be services, business models, markets, processes, customer experience or ways of organising yourself. However, the main definition of innovation from the authors point of view is that innovation can convert ideas into developmental concepts.

From a theoretical point of view, social innovation is a contemporary manifestation of historical tensions of the relationships between "economy" and "society." According to Logue (2019:1), as a concept, social innovation is concerned with the process and pursuit of both economic and social progress and is underpinned by a fundamental relationship to value and morality, that is, understanding of "doing good" and "being good."

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Innovation wasn't always a hot topic in Silicon Valley. As many things have happened in the ensuing years, innovation has risen from the bottom up. Today, companies seem to have an almost insatiable thirst for knowledge, expertise, methodologies, and work practices around innovation (Kelley, Littman, 2016:3).

An important development of innovation studies in the past decade has been recognising the role of communities outside of the boundaries of firms in creating, shaping, and disseminating technological and social innovations (West, Lakhani, 2008:223). The term “open innovation” is most recently defined as “a distributed innovation process based on purposefully managed knowledge flows across organisational boundaries, using pecuniary and non-pecuniary mechanisms in line with the organisation's business model” (Chesbrough, Bogers, 2014:17). Open innovation is not related solely to the company, it also includes creative consumers (Berthon *et al*., 2007:39) and communities of user innovators.

The boundaries between a company and its operating environment have diluted. Innovations can be easily transferred inward and outward between firms and other firms and between firms and creative consumers. This translates in impact at the consumer level, the firm, the whole industry, and society (Bogers *et al*., 2017:15).

Today there is a growing tendency in big companies to operate disruptive ideas far away from their headquarters in the so-called “innovation outposts,” where they afford to increase their versatility and be fast enough to keep up with such a demanding pace in technology. A report from Mind The Bridge - an advisory firm in innovation - and JETRO (Japan External Trade Organisation), (Mind the Bridge, JETRO, 2020:2-16), observes the corporates new ways to push towards innovation strategically placing their innovation outposts inside the world's technology epicentres: San Francisco Bay Area, Israel or China. According to their methodology (Mind the Bridge, 2020:2-19), an “innovation outpost” is “a team of people and often a physical site that is set up by a corporation in a global technology hub to perform and support activities such as: Technology Scouting, Open Innovation, Startup Investments, and M&As”. For a better understanding and in concordance with the report methodology, we identify six defining characteristics of innovation outpost:

- Exposure/Training
- Trend Reporting
- POC/Acceleration/Co-Development/Development/Venture Building
- Procurement/Licensing/Partnership
- Investments
- Acquisitions

When analysing these principles, it is important to note that during their operation, innovation outposts are constantly changing shape, from being innovation “antennas” for the head company to independent R&D centres. In particular, Japan uses these innovation outposts for capital deployment in either Corporate Venture Capital (CVC) or Limited Partners in a tertiary investment fund. Today, large companies are taking on a decidedly 21st-century twist. With the rise of Silicon Valley as a hub of innovation, large firms are beginning to embrace open innovation, looking outside their own corporate borders to find innovation sources. They are putting Innovation Outposts into Innovation Clusters to tap into the clusters' innovation ecosystems. According to Mind the Bridge and JETRO classification, in an attempt to seek an understanding of the corporate push towards innovation, researchers have identified 4 forms (Corporate Innovation Antenna, Corporate

Innovation Lab, Corporate R&D Centre and Corporate Venture Capital (CVC) Office), generally taken by the innovation outposts, each showing different focus and depth of the corporate missions (Mind the Bridge, 2019:1).

2. CORPORATE INNOVATION ANTENNA

The first is the lean setup, the Corporate Innovation Antenna. In terms of the innovation community, this type of innovation outpost builds on a lean setup consisting of a small team of up to 10 individuals performing trend spotting and individual startup engagement. In addition to being lean, this is usually the initial step towards a growing presence, and therefore, antennas are often young. Typically, the Antenna is hosted in a co-working space or third-party innovation centre.

3. CORPORATE INNOVATION LAB

To make innovation management ready for digitalisation, companies are increasingly setting up Corporate Innovation Labs. This represents the lean version of the R&D facility and allows for better interaction with startups working with new technologies. On the other hand, this is actually a startup incubator or accelerator running on corporate resources for out-of-house research and development on new technologies and venture building and strategic partnerships. Corporate Innovation Labs are mainly focused on implementing radical and disruptive innovation to develop a digital roadmap.

4. CORPORATE R&D CENTRE

In-house research and development of new technologies or technological capability are recognised as a key engine of short-term business performance and long-term survival. This kind of outpost is established when there is a long-term commitment from the main company (Park, Youngjoon, 2006:26). An R&D Centre employs anywhere from 50 to 1000 individuals and represents the region's highest dedicated mission. The R&D centres draw on both startup technology and local talent to give corporations the power to interact and implement new solutions. Furthermore, an R&D centre pursues to develop technological capabilities for value creation in diverse business areas and provide the next growth engines for the global competition. Some corporates might have multiple R&D Centres specialising in different technologies. While R&D Centres were the dominant model until 2010, during the last decade, we have seen a strong shift towards a leaner presence and the use of other open innovation mechanisms. Labs and - more recently - Antennas have become rather frequent. In parallel, Corporate Venture Capital phenomena is rapidly growing in the Bay Area (Mind the Bridge, 2019:1).

5. CORPORATE VENTURE CAPITAL (CVC) OFFICE

The physical presence of a venture capital fund is key to any business as VC is organically a part of an entrepreneurial ecosystem. Therefore a CVC office is often the choice of a big corporation inside an innovation cluster. For a better understanding, Corporate venturing – also known as corporate venture capital – is the practice of directly investing corporate funds into external startup companies.

Mind the Bridge's Online Directory shows real-time data of the innovation ecosystem in Silicon Valley. According to their findings, in November 2020 there were 389 innovation outposts in the Bay Area taking the form of either innovation antennas, innovation labs, R&D centres, or venture capital offices.

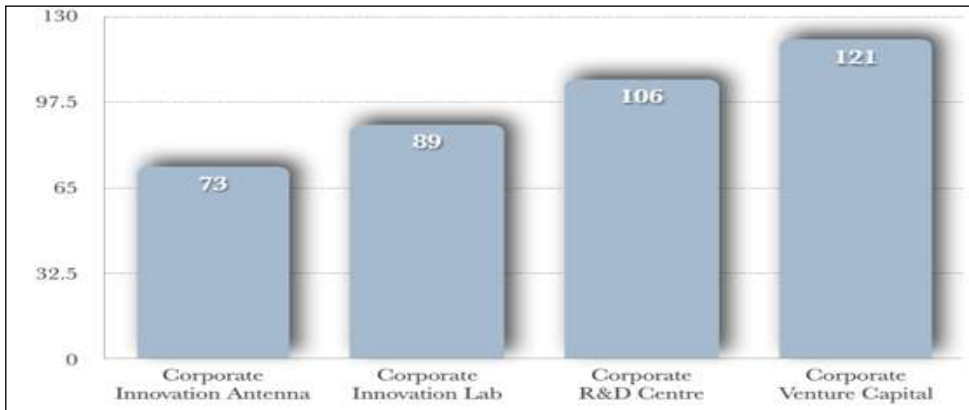


Fig. 1. Innovation outposts in Silicon Valley, by type

Source: Mind the Bridge report (2020). “Corporate Innovation in Silicon Valley”, <https://sv-innovation.mindthebridge.com/directory>

The appetite of mature companies worldwide in having a presence in Silicon Valley is increasing in recent years. The largest presence is from Asia and the Pacific rather than Europe. Out of the 222 companies with an innovation outpost in the Bay Area, 94 (42%) are from the APAC region, versus 76 (34%) from Europe. 41 (18%) are from the rest of the US and 8 (4%) from Latin America. Other regions, including Africa, the Middle East, and Russia, have only a marginal presence of one outpost each. (Mind the Bridge, 2019:1)

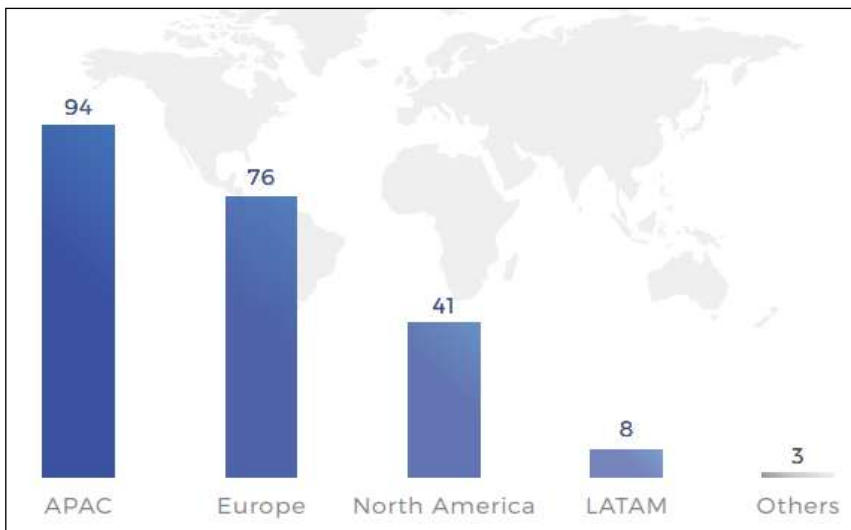


Fig 2. Corporates tapping into Silicon Valley by region of origin

Source: Mind the Bridge report (2019). “Corporate Innovation in Silicon Valley Outposts and Investment Flows”, <https://mindthebridge.com/corporate-innovation-in-silicon-valley-2019-report/>

Based on the total sum of corporations tapping into Silicon Valley by region of origin we can analyse corporate innovation presence by country. Looking at the graphic in Figure 3 we observe that out of the total number of innovation outposts, 27% (107) are

American companies, 22% (87) Japanese, followed by Chinese (33), German (28), French (22), and Korean (22). The top 6 countries with innovation operations in the Bay Area account for 76% of the total number of corporates, while there is a total of 30 countries with innovation hubs in the region.

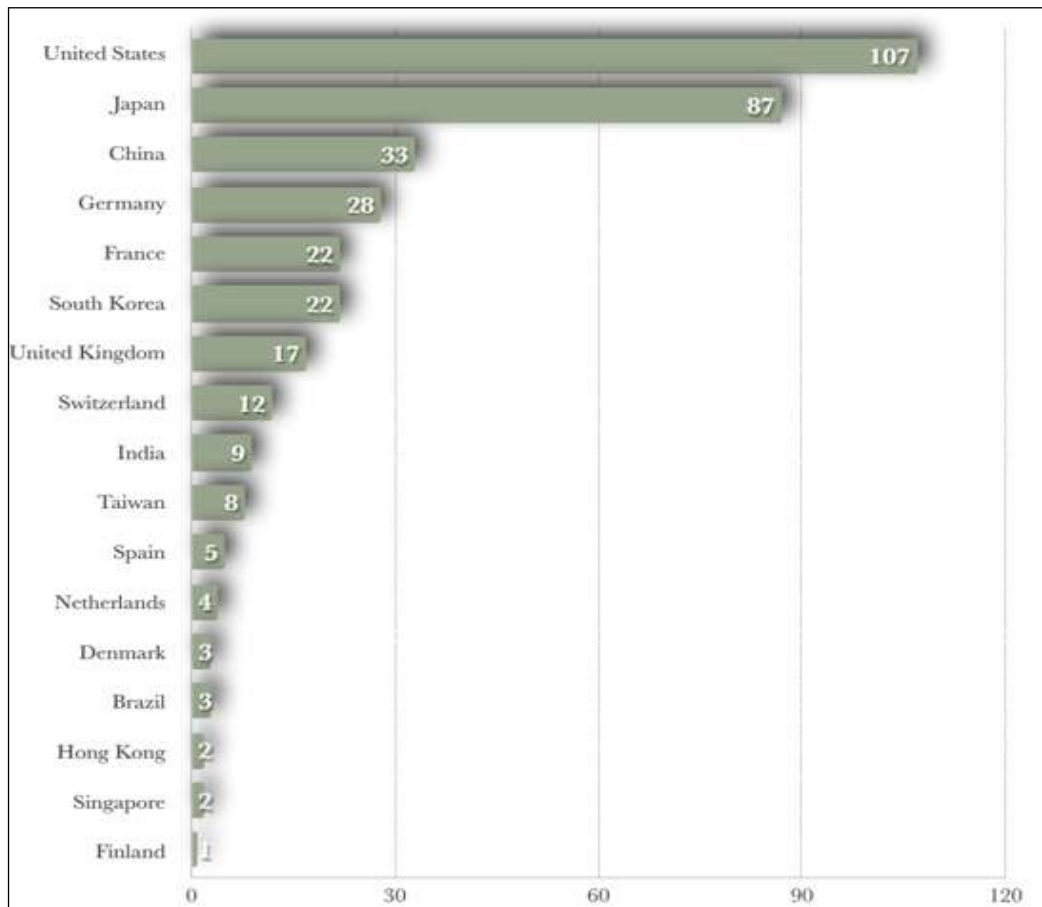


Fig 3. Corporate innovation presence in Silicon Valley, by country. Number of innovation outposts

Source: Mind the Bridge report (2020). “Corporate Innovation in Silicon Valley”, <https://sv-innovation.mindthebridge.com/directory>

If we look strictly at Japanese presence in Silicon Valley, we see a tendency towards lean structures as antennas, labs, and VC offices, operating with a small number of employees. Figure 4 shows trends in Japanese innovation outposts in Silicon Valley, by type. There are only 5 more structured Japanese R&D subsidiaries established in Silicon Valley that deliver innovation for their main branch: Fujitsu Laboratories of America (FLA), Hitachi America and Hitachi Vantara, Toyota Research Institute, and TDK InvenSense. These R&D centres have operations requiring anywhere between 50-500 members, having their research focused on artificial intelligence, sense computing, cryptography, blockchain, big data analysis, IoT, or quantum computing.

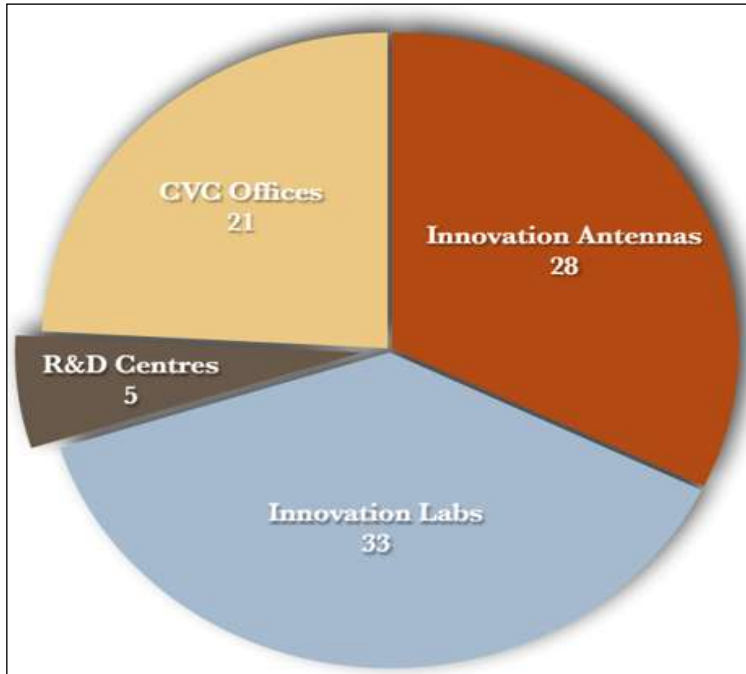


Fig 4. Japanese innovation outpost in Silicon Valley, by type
Source: Mind the Bridge report (2020). “Corporate Innovation in Silicon Valley”,
<https://sv-innovation.mindthebridge.com/directory>

Regarding industries, there are 18 different sectors of the Japanese economy present in the Bay Area, some companies having even more than one innovation outpost. Figure 5 shows Electronics as being the most representative sector, counting 13 outposts out of 87 and covering giants like Panasonic (3), Sony (2), Hitachi (2), Canon (1), or Murata (1). The Automotive industry comes next with 10 innovation centres for manufacturers such as Toyota (2), Denso (2), Honda (1), or Yamaha (1). Large conglomerates such as Mitsui, Mitsubishi, and Sumitomo, which have their main focus on trading and investing, are also key players in the region, having 9 CVCs offices and innovation labs to cover their extended portfolio of research and investment. The software comes next with 8 Japanese innovation antennas and corporate innovation labs working for Fuji Film, Rakuten, Softbank, and NTT.

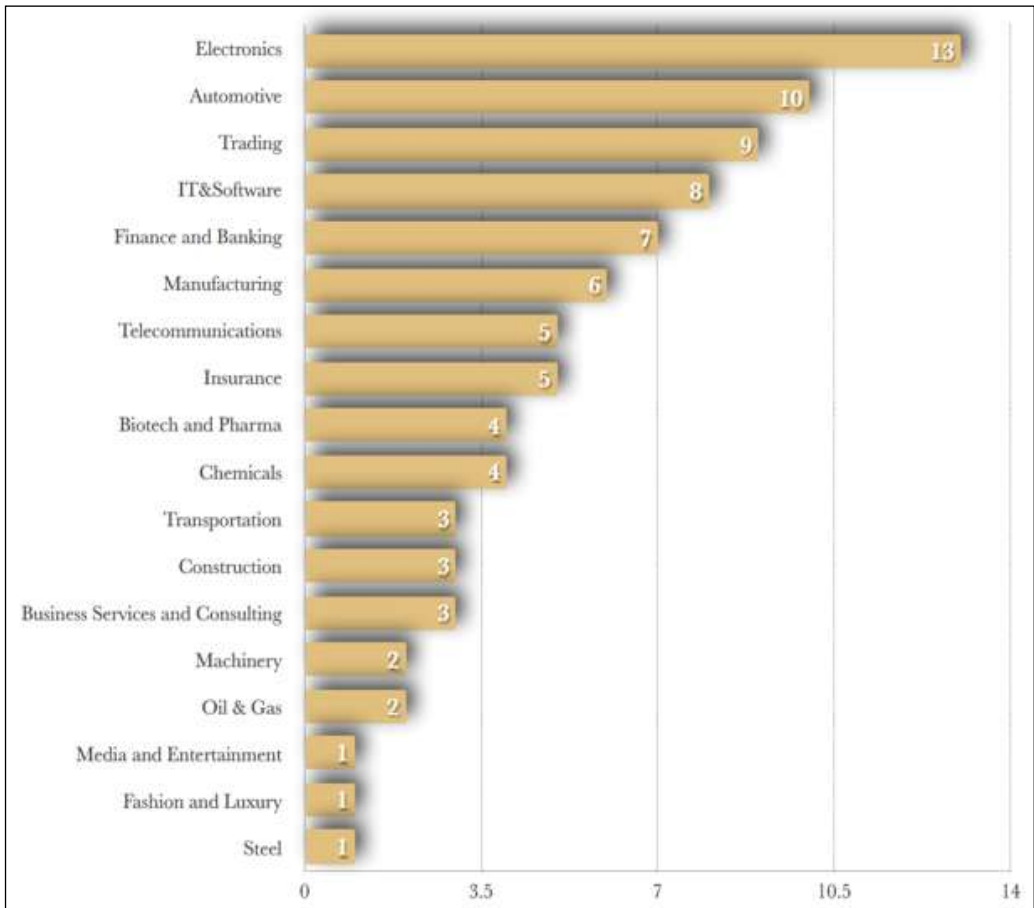


Fig 5. Japanese innovation outposts, by industry

Source: Mind the Bridge report (2020). “Corporate Innovation in Silicon Valley”, <https://sv-innovation.mindthebridge.com/directory>

Based on these numbers, we notice that Corporate Open Innovation in Silicon Valley is definitely booming. Not only the presence of big corporations but also the foreign capital invested in the region is significant. Figure 7 shows the top 15 investors in Silicon Valley between 2015 - 2019. Starting from 2015, corporates in mainland Japan put a special focus on CVC (Corporate Venture Capital), backing 288 rounds with a total of \$28B of co-investment into the Bay Area. This makes Japan the most valuable foreign investor in Silicon Valley. The main Japanese players in the spectrum are the Vision Fund, Toyota AI Ventures, NTT Docomo Ventures, Sony Innovation Fund and MUFG Innovation Partners (Mind the Bridge, 2020).



Fig 7. Top foreign investors into Bay Area (2015-2019)

Source: Mind the Bridge report (2020), “Corporate Innovation in Silicon Valley”, <https://mindthebridge.com/japanese-corporate-innovation-in-silicon-valley/>

Mind the Bridge is a global organisation which provides innovation advisory services for corporate and government organisations. With HQs in San Francisco (CA) and offices in Barcelona, London, Milan, and Berlin, Mind the Bridge has been working as an international liaison firm, acting between startup’s and corporates since 2007. The organisation scouts, filters, and works with 5,000+ startups a year, supporting global corporations in their innovation quest with open innovation initiatives that translate into curated deals with startups (licensing, investments, and/or acquisitions). It also provides advisory services and benchmarking on innovation strategy and structure.

JETRO, or the Japan External Trade Organization, is a governmental organisation which works to promote mutual trade and investment between Japan and the rest of the world. JETRO San Francisco focuses on Innovation and partners with local accelerators for startups to provide free services which allow them to expand their business and receive expert mentoring. JETRO also connects Japanese startups to interested investors in the Bay Area and provides support and assistance to American companies entering the Japanese market.

6. CONCLUSIONS

Through this research, we intended to illustrate how Japan originated companies focusing on collaboration, ecosystem development, and user integration have managed to initiate social innovation opportunities in Silicon Valley. It is important to observe that the Japanese companies' social innovation strategy focuses on creating sustainable business

models and developing a unique, long-lasting value proposition for all users - customers, employees, shareholders, and society.

As mentioned previously, establishing innovation satellites away from the headquarters is considered a strategic move for a corporation looking to remain at the forefront of societal transformation. According to practical and theoretical research results, Japanese companies have managed to adapt to these criteria. As the present research indicates, if there were only 10 Japanese innovation outposts tracked by Mind the Bridge before the year 2000, the number grew almost 9 times, especially in the last 5 years. The present data shows Japan being the main foreign investor in Silicon Valley, with the largest innovation presence, spread all around the Bay Area.

Findings also showed that corporate innovation outposts' success depends on their alignment with their main companies' goals and the business units that have to integrate the innovation coming from Silicon Valley. If teams are stable and the commitment from top management is clear, concrete results follow, independently of the headcount of the outpost placed in Silicon Valley.

BIBLIOGRAPHY

- Berthon, Pierre; Pitt, Leyland; McCarthy, Ian; Kates, Steven (2007), When customers get clever: Managerial approaches to dealing with creative consumers, in *Business Horizons*, Vol. 50, Issue 1, 39-47, Canada: Elsevier
- Barraket, Jo; Yousefpour, Nina (2013), "Evaluation and Social Impact Measurement Amongst Small to Medium Social Enterprises: Process, Purpose and Value, in *Australian Journal of Public Administration*, Vol. 72, No.4, 447-458, Australia: John Wiley & Sons, Inc
- Bogers, Marcel, et all (2017), The open innovation research landscape: established perspectives and emerging themes across different levels of analysis, in *Industry and Innovation*, Vol. 24, No.1, 8-40, New York: Routledge
- Chaminade, C.; Lundvall, B-A.; Haneef, S. (2018), *Advanced Introduction to National Innovation System*. Cheltenham: Edward Elgar Publishing
- Chesbrough, Henry; Bogers, Marcel (2014), Explicating open innovation: Clarifying an emerging paradigm for understanding innovation in Chesbrough Henry et all (eds.), *New Frontiers in Open Innovation*, Oxford: Oxford University Press, 17, Oxford: Oxford University Press
- Edquist, C. (2005), *Sistems of innovation: perspectives and challenges* in Fagerberg, J.; Mowery, D.; Nelson, R. (eds), *The Oxford Handbook of Innovation*, Oxford: Oxford University Press
- George, Gerard; McGahan, Anita M.; Prabhu, Jaideep (2012), Innovation for Inclusive Growth: Towards a Theoretical Framework and a Research Agenda, *Journal of Management Studies*, Vol. 49, Issue 4, 661-683, Australia: John Wiley & Sons Ltd and Society for the Advancement of Management Studies
- Johnson, B; Andersen, A (2012), *Learning, Innovation and Inclusive Development: New perspectives on Economic development strategy and development aid*, Aalborg: Aalborg Universitetsforlag
- Kay, Luciano (2011), *Managing innovation prizes in government*". Washington, DC: IBM Center for the Business of Government in May-June 2011, <http://www.businessofgovernment.org/sites/default/files/Kay.pdf>

- Kelley, Tom; Littman, Jonathan (2016), *The art of innovation. Lessons in creativity from IDEO american's leading design firm*, London: Profile books
- Logue, Daniel (2019), *Theories of social innovation. Elgar Introductions to Management and Organization Theory*. Cheltenham: Edward Elgar Publishing
- Mind the Bridge, JETRO report (2020). *Japanese Corporate Innovation in Silicon Valley*, 2-16, in September 2020, <https://sv-innovation.mindthebridge.com/directory>
- Mind the Bridge report (2020). *Corporate Innovation in Silicon Valley*, 2-19, in September 2020, <https://sv-innovation.mindthebridge.com/directory>
- Park, Sangmoon; Youngjoon, Gil (2006), *How Samsung transformed its Corporate R&D center*, in *Research-Technology Management*, Vol.49, No.4, 24-29, Virginia: Industrial Research Institute
- Sugai, Philip (2020), *Building value through marketing. A step-by-step guide*". London: Routledge Taylor & Francis Group
- West, Joe; Lakhani, Karim (2008), *Getting Clear About Communities in Open Innovation*, *Industry and Innovation*, Vol. 15, No.2, 223-231, New York: Routledge
- Wulfen, Gijs Van (2018), *Inspiration for innovation. 101 lessons for innovators*, Amsterdam: BIS Publisher

