Unlocking the full value of a corporate innovation hub

Jenny Elfsberg

Blekinge Institute of Technology,

SE-371 79 Karlskrona, Sweden

E-mail: jxe@bth.se

Tobias Larsson

Blekinge Institute of Technology,

SE-371 79 Karlskrona, Sweden

E-mail: tlr@bth.se

Christian Johansson

Blekinge Institute of Technology,

SE-371 79 Karlskrona, Sweden

E-mail: cmj@bth.se

Andreas Larsson

Blekinge Institute of Technology,

SE-371 79 Karlskrona, Sweden

E-mail: anl@bth.se

Abstract: This paper covers research about how Corporate Innovation Hubs, CIHs, in Silicon Valley are managed and supported by their corporate motherships and how their likeliness of success can be increased by conscious and proactive management and support. To embrace the cultural difference as a competitive advantage and learning experience is important. Clear intentions, expectations, team constellation, reporting level and finding the right individual as head of the CIH are identified as crucial factors to consider.

Keywords: Corporate Innovation Hubs; Silicon Valley culture; Innovation outposts; Startups; Innovation ecosystem; autonomy; Emerging technologies; organizational intent; outcome expectations.

1 Introduction

Large mature, incumbents have since the 1970s (Hiltzik, 1999) established explorative presence, such as research, technology scouting, and innovation centers in Silicon Valley. The region is recognized as the world's strongest innovation economy (Startup_Genome_LLC, 2019) with a high concentration of skilled, motivated talents and is the birthplace of many successful electronics and software-based firms such as Apple, Google, Tesla, Intel, Oracle, eBay and Intuit (Berlin, 2017).

Corporate Innovation Hubs, CIHs, or "Innovation Outposts" in Silicon Valley are expected by the corporate headquarter, or the "mothership", to tap into the innovation ecosystem and generate new research, ideas, concepts, and technology (Berger & Brem, 2016) as well as recruit talents.

For two years, the lead author was preparing for, establishing, and operating a CIH in Silicon Valley. Early in the process when visiting and learning from existing CIHs, the following questions were raised:

1. Do the corporates that establish CIHs in Silicon Valley have clear intentions with and expectations on their CIHs?

2. How are the CIHs established, operated, managed, and supported?

While working on establishing the new CIH, the lead author continued to explore those questions and added one:

3. Can insights from existing CIHs be utilized as information to increase the likeliness of success for new CIHs, and CIHs in need of realignment?

2 The Silicon Valley culture

Silicon Valley is a region that spreads from Santa Clara County in the south to San Mateo County in the north, on the peninsula south of San Francisco in California. This "habitat" is known to have everything a technology startup needs to survive and thrive and have grown organically since the 1960s (Berlin, 2017). Citizens, firms, and institutions are benefiting from the geographical proximity, and the cognitive, institutional, and social proximity that this innovation ecosystem fosters (Balland, et al., 2015).

The region's company culture has historically been different from traditional company culture (see Table 1), and even if the below comparison is no longer that regionally distinguishable, it used to be what formed the Silicon Valley culture.

Table 1 Traditional company culture vs. Silicon Valley company culture

Traditional	Silicon Valley
Hierarchical	Flat, competence matters most
Formality	Transparency, decisions made quickly and easily changed
Stability	Fluidity and speed, on all levels
Self-sufficiency	Collaboration
Confidentiality	Openness

Source: (Saxenian, 1994)

The region has also fostered its typical entrepreneurial characteristics (Lee, et al., 2000):

- rapid pace and "invent-the-future" orientation,

- ability to create rich connections to other people,

- tendency to share ideas openly with "the valley" people, including competitors - knowing that you cannot succeed on your own, cooperating with a direct competitor is not unusual,

- focus, passion, emotional intensity – a personality trait that is typical for entrepreneurs in the valley, and

- connectedness, far beyond what is necessary for their business, including local government, schools, civic associations.

The main author's experience is that Silicon Valley offers more than presence in the USA, it offers a global presence since the region attracts entrepreneurs, investors, talents, collaborators, researchers and students from all over the world. The Silicon Valley culture leads to insights and collaboration opportunities at a higher speed and with a higher level of competence than in most other regions of the world. Therefore, a strong and solid presence in the SF Bay Area can be enough for a corporation looking to strengthen its technology exploration and startup collaboration portfolio.

The pay-it-forward culture

A very busy manager of a waste management facility in Alameda County was asked by the main author to host a group of students for a study visit. Not only did he arrange that visit but also connected them with other relevant people, sent over material afterwards, and participated in their final presentation at the school. That is how the "pay-it-forward" culture (Blank, 2011)

works and it is a strong cultural marker for the region. The Silicon Valley citizen is a problem solver, with appetite for complex, wicked problems (Rittel & Webber, 1973) and opportunities to change the world. In this fast-moving, dynamic, technology- and science-embracing, competitive, and sometimes harsh environment there is also a comforting bias towards helping each other.

Another descriptive example of this culture comes from what William Cockayne, a well-established, well-connected Silicon Valley entrepreneur and scholar, provided as guiding principle to the main author, when initiating the work to establish a CIH, in 2018:

> "Whatever you do here, make sure that the Valley wins. Then there is at least a chance that you will be successful."

For the main author it seems like even the sun makes a difference as many connections and collaborations begin with coffee shop talks and leisure walks. The Valley is full of resourceful, supportive citizens that generously provide advice, connections, and other support to everyone who also pays it forward, and failing to do so might find you battling on your own.

3 Understanding Corporate Innovation Hubs in Silicon Valley

CIHs are expected to be the bridge between the mothership and Silicon Valley and generate value for the larger organization. Much of this value is knowledge transfer outside in, but equally important is the knowledge transfer in the other direction as strong relations built on mutual trust is key to successful partnerships. Two major challenges with this transfer are the "Not-Invented-Here" and the "Not-Sold-Here" problems, often preventing the CIH from being that bridge. There are ways for the corporates to overcome those challenges, and the main author collaborated with two M.Sc. students to explore this in their thesis work. Insights include an understanding of causes, consequences, and suggested mitigation actions; such as alignment of objectives between the mothership, the CIH, and the startup and creation of a robust and trustful knowledge-sharing environment (Amann & Granström, 2019).

Steve Blank writes in his blog post (Blank, 2015) about "Innovation Outposts" that most of them are:

> "...at best another form of innovation theater – they make a large company feel like they're innovating, but very few of these outposts change a company's product direction and fewer impact their bottom line."

Corporates that are establishing CIHs are according to Blank doing it to sense and/or to respond to technology shifts. Sensing typically depicts the technology scouting activities, to identify potential threats and opportunities. To respond means that the corporate can invent, invest, incubate, acquire, or partner. A corporate that considers establishing a CIH in Silicon Valley, or any other innovation ecosystem in the world, need to develop an end-to-end corporate outpost strategy.

Research methodology

As the main author of this paper was heading up one of the CIHs included in this study the research methodology is influenced by action research. A combination of participatory observations and semi-structured interviews with other CIH leaders and team members was used to develop a deeper understanding of the different approaches, experiences, and lessons learnt. The interviews were followed up with a survey, where some responses triggered new questions leading to additional interviews.

To explore corporates' intentions, expectations and ways to manage and support their CIHs, six CIHs are included in this study. Interviews were performed with CIH leaders and team members, and a few individuals based at the corporate headquarter. The interviews were followed up with a survey and in a few cases followed up with further interviews. The studied companies share the following characteristics:

- large firms with headquarters far away from Silicon Valley; all but one large incumbents with decades of success as their legacy,

- the "mothership" is based in a country or region with a completely different culture,

- all operating in mature manufacturing industries

- established a CIH in Silicon Valley less than 6 years ago

Some differences between the studied CIHs were reporting level for the CIH head, size of the local team and the CIHs' level of autonomy. The mission given to the CIHs from their motherships differed as well, see Table 2 below.

Table 2 Corporate Innovation Hubs included in this study

Company	Reporting to	Local team size	Level of autonomy	Mission from mothership
A	CEO	<100	100%	Self-disruption, "future of industry"
B	CEO -3	<10	0%	Digital innovation in partnership
C	CEO	~200	70%	Be in s/w development forefront
D	CEO	<10	50%	Fast follower of competition
E	CEO -1	~100	70%	Make use of Silicon Valley presence
F	CEO -1	<10	100%	Technology scouting, finding startups

One common challenge for all CIHs was to make the mothership care to understand the Silicon Valley culture. To visualize all types of connections and interactions the local team at a CIH need to deal with the main author created below figure.

Figure 1 The main author's internal explanation of the three Silicon Valley domains

The intention with it was to visualize how "worlds are colliding" and how it is necessary to participate in all to be regarded as a serious, reliable and reputable local actor.

The figure shows three clustered domains, or "worlds"; the Tech companies world, the Startup world and the Research world. The Tech companies world include competitors, peers in similar industries, customers, suppliers – old, established tier 1 suppliers as well as new ones. It also includes original Silicon Valley firms: Oracle, Cisco, Intel, etc. and new ones: Amazon, Google, Apple, etc. This world also include bold disruptors, in many cases those that draw the incumbent's attention to Silicon Valley: Tesla, Uber, Waymo, AirBnB etc. and resembles traditional business environments, but due to the mix of old and new, and the regional culture with higher cadence as well as more inclination towards experimentation and explorative collaboration. There is a quite stable financial balance between the actors as none of them is desperately "fighting for survival" and nobody go out of business if a contract takes half a year longer than intended. Delays might cause that the interest is lost as the Silicon Valley innovation ecosystem is spinning fast, but that engagement can often be recovered later.

The Startup world includes the startups, their investors, talent pools, incubators, such as Y Combinator and 500 Startups, and accelerators, such as Plug & Play. The nature of this domain is different because startup companies here are pressured by investors to show progress. Speed and willingness to take calculated risk is what matters most and regardless if you are going to invest, become a customer, or partner with the startups, you need to move quickly to be considered serious. A traditional, risk-averse corporation with focus on exploiting existing businesses does not match the fast-moving, agile and opportunity-seeking mentality of the startup world, therefore a local CIH team can be a bridging mechanism since it operates similar to a small startup, as long as it is given the right level of freedom and autonomy.

The Research world includes universities, undergraduate and PhD students, senior researchers, faculty members at the universities, policymakers, city and state authorities, regional and federal agencies with funding or regulation responsibilities. This domain also includes port authorities, airport authorities, and cross-sector networks for regulation and policy topics. The reason for this is that the main author got connected to those through the academia network. This domain is stable, structured, highly interdependent and requires a long-term relationship with a high level of mutual trust. This world bridges into the other worlds through strong and loyal alumni networks, publicly funded collaboration projects and topic-focused, conversation-driven events. To be seen as a sincere Silicon Valley actor it is necessary to be an active part of this domain, partly because this shows that you have a vested interest in higher education and partly because it enables quick and low-cost proof of presence, through internship students, sponsorship of university education with problem statements, guest lectures and financial contributions, and of course participation in academic research. Several university collaborations generate broad, vital networks through events hosted on campuses and online, as well as the fact that students the CIH works with becoming professionals in local companies and stay connected. Beyond the direct value of being connected with Silicon Valley academia and benefit from their talent pool, their courses and their research, the open boundaries also make it crucial to be part of all domains – otherwise, there will be "glitches" in the attempt to establish a solid and trusted Silicon Valley presence for the corporation.

All interviewees in this study provided their personal experiences and perspectives on what works well and what is challenging in their particular CIH context. Literature reviews and insights from the interviews generated a list of desired conditions, which led to a follow-up survey with Silicon Valley based CIH employees only. The individual responses generated additional interviews for deeper understanding. The survey questions are listed below:

1. The CIH team is multi-disciplinary, with high-level of diversity and collaborative spirit, so-called T-shaped *(rate your CIH on a scale from 1 to 5)*

2. The CIH team uses an agile and iterative process allowing for reflection, rethinking and change of direction based on learning *(rate your CIH on a scale from 1 to 5)*

3. The CIH team include each other in daily work and utilizes diversity as a strength, all the way from insight building to proof-of-concept, instead of individual work, weekly progress reports and hand-offs *(rate your CIH on a scale from 1 to 5)*

4. The mothership provides purpose and direction, is transparent and inclusive. The CIH team understands how to pursue ideas and influence decisions *(rate your MS on a scale from 1 to 5)*

5. The mothership's leadership is focused on competences, learning and progress in the CIH - rather than resources and budget *(rate your MS interaction on a scale from 1 to 5)*

6. The CIH team feel safe with each other, embraces disagreements and knows that they can speak their mind and get support, thanks to psychological safety *(rate your CIH on a scale from 1 to 5)*

7. The CIH team embrace failures as learning opportunities and openly share successes and failures in a non-judgmental way *(rate your CIH on a scale from 1 to 5)*

8. The interaction with the mothership is strongly influenced by external factors (such as market trends, customer needs and technology development), not internal budgets and governance *(rate the interactions on a scale from 1 to 5)*

9. The CIHs external collaboration with startups, tech giants and academia work well, and is utilized by the MS *(rate the CIH/MS external collaboration performance on a scale from 1 to 5)*

10. Does the CIH core team and/or leader have interactive conversations with C level executives regularly *(Yes or No)*

For survey question 10, the responses were divided with 70% of "Yes" answers and 30% of "No" answers. For survey question 1-9 responses, see table 3 below.

Table 3 The follow-up survey responses for question 1-9 (average of rating from 1 to 5)

Question	Rating
1	4,6
2	3,6
3	4,4
4	2,5
5	2,2
6	4,8
7	4,8
8	3,1
9	3
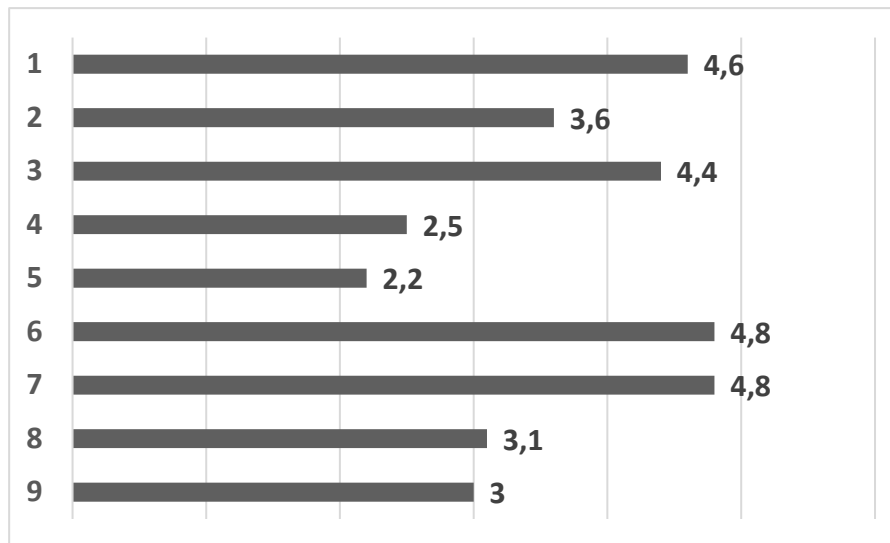
4 Discussion

Table 3 presents the average rating in the responses and shows that there is room for improvement, particularly when it comes to the dynamics between the mothership and the CIHs. When analyzing the individual responses, mapping them against the differences between the CIHs, some patterns emerge. It turns out that the local CIH teams are all multidisciplinary, embraces diversity, has a high level of psychological safety and embraces failure as a learning experience without judgement. The following differences are observed:

- CIHs with high level of autonomy are applying more agile, iterative ways of working than the ones with a low level of autonomy and strong dependence of the corporate decision process.

- The higher the level of reporting, the clearer the intention and expectation from the mothership is. The CIHs with the highest reporting level also gave the highest rating on question number 5, regarding focus on competences, learning and progress rather than budget and resources.

- All CIHs with reporting level below CEO -1 rated their mothership interaction (question 4, 5, 8 and 9) lower than 3. High reporting level, high level of autonomy and regular interaction with C level executives lead to more externally oriented focus and actions.

- Answers to question 9 triggered further questions, and subsequent interviews showed that reasons for low ratings differed between the CIHs. Teams with high level of autonomy experiences good collaboration in the Silicon Valley ecosystem, but struggle to integrate the outcome from the collaboration into the mothership. For teams with a low level of autonomy, the struggle sometimes begins with the first non-disclosure agreement needing to be signed by someone at the mothership, sometimes due to waiting time, sometimes only because when the startup realizes that the head of the CIH does not even have authority to sign an NDA it indicates that this will not be a straightforward local collaboration with mutual trust, but will be dependent on an executive in another country and time zone, with less dynamic and collaborative culture, and with lower cadence. Then there is the internal politics within large corporates, with interdependencies between senior colleagues at the headquarter. The team at the CIH are considered as outsiders, rarely included in any of the internal politics, rather tolerated, or even ignored, maybe just forgotten.

To establish a Silicon Valley-based Corporate Innovation Hub is demanding, difficult, expensive, and sometimes quite frustrating work. One of the interviewees who is heading up a successful CIH for a large, mature incumbent said:

> "If you are looking for appreciation or recognition within your company - this is definitely not the job you want."

All CIH teams experience internal skepticism and pushback due to the cultural differences and corporate processes, procedures and policies. All CIH teams express strong commitment to their mission, loyalty towards their employer and high level of stress and frustration due to lack of understanding of – and interest for – Silicon Valley within the larger organization. It is likely that CIHs can be more successful if the presence in Silicon Valley is more proactively, consciously and systematically managed. The following focus areas are identified as priorities:

- Organizational intent: Why are we present in Silicon Valley?

- Outcome expectations: How do we define success?

- The local team: Who are the individuals for our winning team?

- The reporting level: On what level in the hierarchy do we need broad understanding of what is going on in Silicon Valley, and how to best support the CIH?

- The head of the CIH: How to find the individual that can be the bridge and the buffer?

Organizational intent: Why are we present in Silicon Valley?

With clarity about the intent with the CIH and direction, support and commitment matching with that intention it is possible for the CIH to build reputation and make early wins independently of the mothership's processes and procedures. With clear organizational intent, the local team can actively engage in the open boundaries ecosystem and establish the foundation for successful operation in Silicon Valley.

Several of the CIHs invite corporate executives to "demo days" in order to gain respect and appreciation for its work. These showcases are helping the CIHs to visualize their advanced technology knowledge and helps the executives to determine CIH focus and responsibilities. The intention with Silicon Valley presence is preferably both broad and flexible, in order to enable continuous knowledge building and external explorative collaborations.

Outcome expectations: How do we define success?

With autonomy to operate within a broadly defined organizational intent and clear budget frame, the CIH can respond well to clearly defined outcome expectations. This helps the team to focus on the right things and move with Silicon Valley cadence, establish partnerships and build reputation. The outcome expectations are important and need to be adjusted over time. One of the interviewees explained Silicon Valley presence in this way:

> "You can't come here and do cherry picking, either you are part of the Silicon Valley ecosystem wholeheartedly, or you are not."

While there is flexibility when it comes to effort and commitment, the CIH mission for achieving win-win for both the mothership and Silicon Valley must be clear. With clearly defined OKRs (objectives and key results) formulated with both a corporate and a regional perspective the CIH can operate effectively. Metrics that signals value for the corporate are for example related to collaboration with startups, academia related activities and tech giant partnerships. Metrics that signals value for the region are rather related to job opportunities, generated tax income, new local partnerships, new types of interactions, visitors, investors, services, facilities etc.

The local team: Who are the individuals for our winning team?

The local team constellation depends on the intention of the CIH. All the CIHs in this study value multi-disciplinary teams with "T-shaped" individuals (Patterson, 2017). The benefit of building the team with local talents, and utilizing their existing networks is recognized by many of the interviewees, while it is also seen as crucial to have team members that understand the corporation's culture and is well connected with the mothership.

The reporting level: On what level in the hierarchy do we need broad understanding of what is going on in Silicon Valley, and how to best support the CIH?

An appropriate hierarchical level in the organizational structure removes both confusion and frustration. Because of the open boundaries in Silicon Valley, it is necessary to provide the right level of support and autonomy to the local team in order to enable them to swiftly act on opportunities. Strong commitment from the mothership makes it easy and undramatic to involve the right internal experts without internal governance and delays. Such close connection increases the likeliness of success tremendously. Heads of CIHs that report directly to C-level executives and interact with the executive boards regularly express the lowest level of stress and frustration and feel more respected, appreciated and more empowered to do what matters the most. A CIH based HR executive initiated a "corporate intrapreneurship program" where employees develop competencies learnt from Silicon Valley to be able to self-disrupt the corporate, an initiative that would have been impossible with a lower level of reporting. The open boundaries in Silicon Valley lead to broad conversations and promising opportunities dynamically and with high speed.

The main author experienced going to a meetup event to learn about a startup with an active safety solution and ended up discussing electrification or automation of a transport system at an airport, with strong support from public funding and media attention prepared. Having a presence in Silicon Valley without authority and trust to participate in such conversations undermines the CIHs reputation and relationships. The local CIH team will not be able to get involved in everything, but need to feel empowered to take part in such conversations and channel them to appropriate colleagues rapidly, otherwise the highly connected Silicon Valley ecosystem realizes that the CIH is unable to participate effectively and will move focus to other more interesting actors in the region.

The head of the CIH: Choosing the individual that can be both the bridge and the buffer

This individual needs to fit into the Silicon Valley culture to attract talents and collaboration partners. At the same time, the person needs to understand the corporate culture and be able to interact effectively with internal interfaces when dealing with issues related to corporate policies, HR, finance, IT, R&D, legal, communications and management.

This individual need maturity, experience, drive and resilience to make the CIH function and add value to the corporate despite internal challenges. Lacking support and understanding from the mothership is common and caused by cultural clashes and human nature. This individual represents the corporate in front of external networks and the CIH team and is also representing the local team and Silicon Valley opportunities in front of the mothership. The head of the CIH connects and translates for two sides unable to understand each other and functions as a buffer between them in order to take advantage of the Silicon Valley presence.

The head of the CIH also needs to be a visionary and a storyteller. Attracting partners in the Silicon Valley ecosystem requires a bold, big vision. Attracting talents requires a big vision – and a challenge where they can see themselves be the heroes. The big CIH vision need to resonate well with the mothership to secure commitment and support. The head of the hub provides vision, direction, protection and inspiration to the local team – and of course compensation matching with the Silicon Valley culture.

5 Conclusions

All CIHs are experiencing challenges in the interaction with the mothership. The less autonomy and the further down in reporting level, the more difficult are the challenges, but with full autonomy and reporting to the CEO the value of the Silicon Valley presence is questionable. The difficulty for the CIH team to make their corporate counterparts understand and appreciate the Silicon Valley culture causes stress, inefficiency, and lost opportunities. Accepting the differences and embracing the Silicon Valley uniqueness as a competitive advantage is recommended.

The initial two research questions were utilized to search literature and to guide the semi-structured interviews:

Q1: Do the corporates that establish CIHs in Silicon Valley have clear intentions with and expectations on their CIHs?

Q2: How are the CIHs established, operated, managed and supported?

The answers to those research questions are:

A1: The CIHs in this study had different intentions from their motherships and also different levels of clarity and limitation. Some of the CIHs had both unclear intentions and intentions that changed over time. The expectations were in all cases unclear from the mothership and in the cases where the CIH team members themselves were allowed to define the expectations, the value of the CIH was considered higher.

A2: All the CIH leaders demonstrated an impressive balance between entrepreneurial mindset and commitment to their employers. Maybe this balance is formed by the role that requires it, or maybe this type of job attracts this type of people. The level of autonomy, reporting level, size of CIH team, and interaction with C-level executives was different, but the stories, stress triggers, frustrations, and wanted conditions for maximum value were similar.

The interviews generated the survey questions that enabled the study to find answers to the third question:

Q3: Can the insights from the different CIHs be utilized as information to increase the likeliness of a successful investment?

A3: Yes. These insights can help in setting up the best conditions considering intentions, expectations, autonomy, reporting level, and understanding of the Silicon Valley habitat, at the same time as it can prepare the corporate for the challenging interaction dynamics that all CIHs are experiencing. The buffer role can be formalized and appreciated as an important intermediary and given appropriate support.

One of the most challenging cultural clashes between a large mature firm and Silicon Valley is the difference in cadence. This alone can be enough for a CIH to fail, for example when trying to initiate an exploration-focused collaboration between Silicon Valley-based partners and not having the autonomy to do so independently. To be considered an attractive partner in Silicon Valley one must be able to move immediately. This does not mean that the CIH should have total freedom to operate, but at least the level of autonomy and trust for the mothership to get initial traction and prepare for scaling up the collaboration.

It is possible to increase the efficiency and the likeliness of success for a CIH by consciously and continuously provide the right conditions for the CIH team, starting from a thorough understanding of the Silicon Valley culture and how those cultural differences can be used as a competitive advantage for the corporate.

References

Amann, M. & Granström, G., 2019. *Mitigating Not-Invented-Here & Not-Sold-Here Problems Leveraging External Ideas through Corporate Innovation Hubs.* Luleå: Luleå University of Technology Department of Business Administration, Technology and Social Sciences.

Balland, P.-A., Boschma, R. & Frenken, K., 2015. Proximity and Innovation: From Statics to Dynamics. *Regional Studies,* 49(6), pp. 907-920.

Berger, A. & Brem, A., 2016. Innovation Hub How-To: Lessons From Silicon Valley.. *Global Business and Organizational Excellence ,* 35(5), pp. 58-70.

Berlin, L., 2017. *Troublemakers: Silicon Valley's coming of age.* New York: Simon & Schuster .

Blank, S., 2011. *The Pay It Forward Culture.* [Online]
Available at: https://steveblank.com/2011/09/15/the-pay-it-forward-culture/
[Accessed 28 October 2020].

Blank, S., 2015. *How to Set Up a Corporate Innovation Outpost That Works.* [Online]
Available at: https://steveblank.com/2015/12/17/how-to-set-up-a-corporate-innovation-outpost/
[Accessed 10 October 2020].

Hiltzik, M. A., 1999. *Dealers of lightning: Xerox PARC and the dawn of the computer age..* New York: HarperCollins Publishers.

Lee, C.-M., Miller, W. F., Gong Hancock, M. & Rowen, H. S., 2000. *The Silicon Valley Edge: A habitat for innovation and entrepreneurship..* Stanford, California: Stanford University Press.

Patterson, R., 2017. *The T-Shaped Person: Building Deep Expertise AND a Wide Knowledge Base.* [Online]
Available at: https://collegeinfogeek.com/become-t-shaped-person
[Accessed 7 November 2020].

Rittel, H. W. & Webber, M. M., 1973. Dilemmas in a General Theory. *Policy Sciences 4 (1973), 155-169,* Volym 4, pp. 155-169.

Saxenian, A., 1994. *Regional Advantage: Culture and Competition in Silicon Valley and Route 128..* Cambridge: Harvard University Press.

Startup_Genome_LLC, 2019. *Global Startup Ecosystem Report 2019.* [Online]
Available at: https://startupgenome.com/reports/global-startup-ecosystem-report-2019
[Accessed 20 October 2020].