Engaging complementors for new platform ecosystems: The case of a boundary organization

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Abstract
How do platform owners grow vibrant ecosystems around new platforms? While platform pricing, governance, and architecture play important roles in platform ecosystem emergence, less is known about the role of complementor engagement, often performed by boundary organizations residing between the platform owners and potential complementors. To deepen our understanding of how complementor engagement can be used to harness complementary innovation in platform ecosystems, we use a longitudinal case study of AppCampus, a boundary organization facilitating the development of innovative mobile applications for the Windows Phone platform. Our grounded model elucidates the constituent processes of complementor engagement, the boundary tensions hindering desired outcomes, and the coping mechanisms used by the boundary organization to mitigate these tensions.
ENGAGING COMPLEMENTORS FOR NEW PLATFORM ECOSYSTEMS: THE CASE OF A BOUNDARY ORGANIZATION

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Keywords: Complementor Engagement; Platform Ecosystems; Complementary Innovation; Boundary Organizations
INTRODUCTION

“You need to get this commitment from the developers, so you need to win their hearts and that takes time. That’s the longer-term thing. But if you can win their hearts, if they find the business case and if they feel it’s the right place to be, then almost everything is possible.”
(Timo, marketing manager AppCampus)

The desirability of many goods and services increases with the availability of complementary offerings. Therefore, a platform owner must not only manage the standalone functionality of the core platform but also cultivate a vibrant ecosystem of complementors around it. Thus far, research has mostly explored facilitation strategies related to platform pricing (e.g., Rochet and Tirole, 2003; Parker and Van Alstyne, 2005; Hagiu, 2006; Hagiu, 2009) and the design of platform architecture (e.g., Venkatraman and Lee, 2004, Eisenmann, Parker, and Van Alstyne, 2009, 2011; Boudreau, 2010) and governance systems (e.g., Tellis, Yin, and Niraj, 2009; Zhu and Iansiti, 2012; Wareham, Fox, and Cano Giner, 2014). Much less attention has been paid to boundary-spanning strategies that define how platform owners proactively engage with third parties to facilitate complementary innovation. This is an important gap, given that platform ecosystems are collective endeavours where constituent engagement must be actively solicited in order to build platform momentum (Ansari, Garud, and Kumaraswamy, 2016; Dattée, Alexy, and Autio, 2017).

Practice points to the importance of proactive engagement between platform owners and potential complementors in facilitating complementary innovation, especially for new platforms. As an example, SAP launched Startup Focus to engage with thousands of complementors in an effort to facilitate complementary innovation for its new database platform, HANA.¹ This effort entailed outreach events and workshops, technological assistance, and marketing support, organized via a separate “interface unit” (Weiblen and Chesbrough, 2015: 86). Similarly, Intel Architecture Lab was created in 1991 to orchestrate the development of new PC generations around Intel’s microprocessor platforms. Its mandate included “stimulating and facilitating innovation on complementary products” and offering “non-equity investments to develop content or to help coproduce content” (Gawer and Cusumano, 2002: 25, 70). These examples highlight the role of proactive engagement with potential complementors.

complementors through boundary organizations that price, architectural, and governance strategies risk overlooking.

The few exploratory and practitioner-oriented studies that have explored platform owners’ proactive engagement with potential complementors to facilitate complementary innovation highlight the difficulties involved due to conflicts of interest and clashing organizational cultures (Yoffie and Kwak, 2006; Weiblen and Chesbrough, 2015). As the developer relations group at Intel Architecture Lab found out at the time, “convincing these smaller players to dance with the elephant […] turned out to be an arduous endeavour” (Gawer and Cusumano, 2002: 78). Thus far, however, such practitioner insights have not been followed up by scholarly research to explore the effectiveness of boundary-spanning strategies in building vibrant ecosystems around new platforms. We therefore address the following question: how can a boundary organization successfully engage with third parties to facilitate complementary innovation for a new platform? We explore this question by conducting a longitudinal case study of AppCampus, a three-year, €21 million Windows Phone platform program funded by Microsoft and Nokia and hosted by Aalto University. The mission of AppCampus was to facilitate the development of complementary applications around the Windows Phone platform. Drawing on extensive primary and secondary data collected from different parties involved with the platform program, we induct a grounded model of complementor engagement, the boundary tensions involved, and the coping mechanisms used by the boundary organization to mitigate these tensions (Glaser and Strauss, 1967; Strauss and Corbin, 1990).

We pursue two distinct contributions in this paper. First, we coin the term complementor engagement and provide insights into this under-examined mechanism for facilitating complementary innovation in platform ecosystems. Similar to customer engagement in digital communities (Sawhney, Verona, and Prandelli, 2005), we use the term complementor engagement to refer to the direct and mediated interactions between an ecosystem leader and (potential) complementors to proactively facilitate complementary innovation. Although facilitating complementary goods and services is particularly beneficial in network markets, few studies have
explored how this can be done by platform owners’ interactions with complementors (see also McIntyre and Srinivasan, 2017). Specifically, by documenting processes of complementor engagement, we contribute to recent advances in our understanding of how platform owners can grow vibrant platform ecosystems (Ansari et al., 2016; Dattée et al., 2017).

Second, we introduce the concept of boundary organization into the platform literature and look at the boundary tensions that such organization encounters. Organizational theorists have studied the role of boundary organizations in intermediating between parties with differing interests, goals, and practices and in managing boundary tensions that stem from conflicting stakeholder demands (O’Mahony and Bechky, 2008; Parker & Crona, 2012). As specialized mediators, these organizations enable the participation of stakeholders with conflicting demands (e.g., platform owners vs. complementors) in co-constructing boundary objects (e.g., complementary products or “complements”) (Guston, 2001). By identifying three distinct boundary tensions and the coping mechanisms employed by the platform program to resolve these tensions, we contribute to the literature on boundary organizations and extend its current focus on the science-policy boundary to the platform owner-complementor boundary.

THEORETICAL OVERVIEW

Complementary innovation in platform ecosystems

A platform ecosystem is “a network of interconnected organizations, organized around a platform, incorporating both production and use side participants, focused on the development of new value through innovation” (Autio and Thomas, 2014: 205). Often, one or more platform owners define and offer the core set of technologies, i.e. the platform, which then becomes the foundation on which other firms build complementary innovation (Nambisan and Sawhney, 2011).

As complementary innovation extends a platform’s functionality and increases its attractiveness to end users, platform adoption will greatly depend on the availability of complementary goods and services. Research drawing on the economics literature has shown a positive association between the number of complementary products and platform adoption (e.g.,
Clements and Ohashi, 2005) and demonstrated the existence of indirect network effects, where a platform’s user adoption will accelerate the development of complementary goods and services, and vice versa (Boudreau and Jeppesen, 2015). Such insights have prompted strategy scholars to explore strategies for soliciting complementary offerings around technology platforms, mainly with regards to platform pricing, architecture, and governance. Platform pricing has been suggested as a mechanism for platform owners to attract complementors by financially incentivizing their membership to a particular platform (e.g., Rochet and Tirole, 2003; Parker and Van Alstyne, 2005; Hagiu, 2006; Hagiu, 2009). Studies on platform architecture have found that the design of a platform’s external interfaces – notably, interface openness – influences the platform’s ability to attract third-party complementors (e.g., Venkatraman and Lee, 2004, Eisenmann et al., 2009, 2011; Boudreau, 2010). Research on platform governance has highlighted the importance of quality assurance and tension-resolving mechanisms in providing an attractive environment for prospective complementors (e.g., Tellis et al., 2009; Zhu and Iansiti, 2012; Wareham et al., 2014).

While insightful, this research has almost exclusively focused on platforms’ structural and design features while overlooking that platform ecosystems are subject to a “catch-22” dilemma (Dattée et al., 2017). This dilemma arises from the conundrum that the successful launch of new platform ecosystems requires proactive commitment from several independent complementors. These commitments only bear fruit if a sufficient threshold of commitments is reached for the ecosystem momentum to become self-reinforcing (Suarez, 2004; Evans and Schmalensee, 2010). If this threshold is not reached, the platform ecosystem will not become self-sustaining, and those that already have made commitments will lose their investments. Because of this dilemma, platform-intrinsic features alone may not be sufficient in getting an ecosystem off the ground (Ansari et al., 2016; Dattée et al., 2017).

In addition, received research on platform pricing, architecture, and governance strategies has almost exclusively explored effects on the number of complementors a given platform attracts. This is problematic, given that platform competition is not only about building the largest network of
complementors. Complements’ quality (Binken and Stremersch, 2009), variety (Langlois and Robertson, 1992) and their exclusivity to the focal platform (Lee, 2013) also affect platform adoption, and these characteristics are not necessarily correlated with the number of complementors on a given platform (Tiwana, Konsynski, and Bush, 2010). This may especially the case for new platforms in established platform industries (Boudreau, 2012).

**Complementor engagement through boundary organizations**

Proactive engagement with potential complementors represents one strategy to grow complements on a new platform and overcome the ‘catch-22’ dilemma, while ensuring their quality, variety, and, potentially, exclusivity. Complementor engagement is generally carried out by designated intermediaries such as separate units managed by the platform owner (Weiblen and Chesbrough, 2015). As platform ecosystems cross the boundaries of several social domains, these intermediaries participate in boundary-spanning innovation activities. As such, they operate between two or more pre-existing parties specifically to “help actors with divergent goals further a sub-set of convergent interests” (O’Mahony and Bechky, 2008: 454).

For both platform owners as well as complementors, proactive facilitation is a way to attain better compatibility and more reliable integration between the core platform and its complements (Ceccagnoli *et al.*, 2012). Platform owners may be particularly interested in engaging with complementors to enable the launch of truly innovative applications on their platform. For their part, complementors may seek certification for their complementary offerings so as to improve their ability to appropriate associated returns (Gans and Stern, 2003). Through cooperation, complementors may also seek to reach the installed base faster and more cost effectively by making use of the platform owner’s complementary assets (Teece, 1986). However, complementor engagement equally involves challenges stemming from conflicting interests between platform

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2 While Boudreau (2012) finds support for the correlation between number of complementors and variety of complements in the early market of mobile operating systems, the study also finds that the greater the number of complementors across platforms the smaller each complementor’s innovation incentives and that complementors develop less compelling software with each industry cohort. This suggests that the relationship between number of complementors and variety of complements will be weaker or even inexistent for late entrants in a platform industry.
owners and complementors (Cennamo and Santalo, 2013), opportunistic behavior and profit expropriation by the platform owner (Katila, Rosenberger, and Eisenhardt, 2008), or the platform owner’s risk of helping a complementor develop an easily portable product that will contribute to the success of rival platforms.

Despite increasing interest among practitioners and researchers in platform ecosystems and strategies to facilitate complementary innovation, there has been little work on the role of complementor engagement, the specific tensions involved and the ways in which a boundary organization can mitigate these tensions. In what follows, we address this gap by conducting a single case study of a platform program that facilitated the development of complementary innovation for a new mobile platform.

METHODOLOGY

Research design
An inductive, longitudinal single case study design was employed to give the researchers the opportunity to understand the phenomenon of interest in depth (Strauss and Corbin, 1990; Siggelkow, 2007).

AppCampus
Our research draws from the case of AppCampus, a global application developer program funded by Microsoft and Nokia – which committed €9 million each to cover “grants” – and supported by a €3 million commitment by Aalto University to cover operational expenses and host the organization. The program ran from March 2012 to May 2015 and was managed by a team of eight to twelve people, supported by employees from both Microsoft and Nokia. Control was exerted via a steering board with representatives from Microsoft, Nokia, and Aalto University.

AppCampus had an open application process and offered grants and support to developers of applications for the Windows Phone platform. Depending on the complexity of the app, the available grants ranged in size from €20,000 to €70,000 — of which 30 percent was transferred after passing a design milestone, and 70 percent after the release of the application. Submissions went through a
stringent selection process with an emphasis on application novelty and quality. Applications submitted to AppCampus should not have previously been released on a competing platform and should support key features of Windows Phone and Microsoft and Nokia hardware. While the grants did not involve any exchange of intellectual property or equity, applications supported by AppCampus would, once released, be exclusively available on Windows Phone for initially six and later three months.

Data collection
As shown in Table 1, the evidence guiding our insights was drawn from several primary and secondary sources. Our primary data collection spanned more than two and a half years and comprised ten quarterly waves of semi-structured interviews and informal conversations and attendances at key events — beginning in December 2012 and extending until June 2015. We initially employed purposeful sampling (Patton, 1990) to identify the people involved in the formation of the program. This was followed by theoretical sampling, where data collection was guided by emergent theoretical findings, and sampling was targeted towards the people most knowledgeable about the relevant processes (Glaser and Strauss, 1967). We also had informal conversations with employees of AppCampus and application developers, and attended a number of key strategic and operational meetings, and a handful of events.

To triangulate primary data, we gathered both internal and publicly available secondary material, including strategy and review documents, memos, operational reports, articles, twitter data and press releases.

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Data analysis
The data analysis was conducted in four stages. First, we familiarized ourselves with the case by gathering and reading the archival materials and conducting initial interviews while constructing a chronological list of important events and actions – as perceived by several informants – which was continuously updated over the course of the study (Langley, 1999). Second, we composed a detailed
narrative including interpretations and quotes that provided the background and motivations of the identified key events. Third, after composing the event database and narrative, we started inductive coding of the interviews and archival data using a grounded theory approach (Glaser and Strauss, 1967; Gioia, Corley, and Hamilton, 2013). We began open coding by identifying initial concepts in the data and grouping them into first order codes, using language used by the informants when possible (Strauss and Corbin, 1990). This was followed by axial coding, wherein we searched for relationships between and among these categories, which facilitated assembling them into higher order themes. Our second order codes were drawn from the literatures on platform ecosystems and boundary organizations through iterations of data examination and emerging theoretical insights. Subsequent iterations resulted in three third-order themes that make up the basis of the emergent framework. Last, we constructed data tables of representative quotes for each phase to provide another iteration between the raw data and this higher level of abstraction. The final data structure and illustrative quotes that underlie each theme are shown in Table 2.

-------- Insert Table 2 here --------

**FINDINGS**

**Emergence and development of AppCampus**

“Nokia and Microsoft will combine our strengths to deliver an ecosystem with unrivalled global reach and scale. It’s now a three-horse race.” (Olsen, 2011)

In February 2011, Microsoft’s CEO Steve Ballmer and Nokia’s CEO Stephen Elop announced that both companies would partner up to build an ecosystem around the then recently launched Windows Phone platform to compete with the incumbent platforms of Google’s Android and Apple’s iOS. A couple of weeks after the announcement, Aalto University reached out to Microsoft and Nokia and, together, they developed the skeleton of AppCampus, “a program to help develop [the] Windows Phone ecosystem across the world” (Paolo, AppCampus director). By February 2012, the partners agreed on the investment, objectives, and governance of the platform program. The unit was set up under Aalto’s Center for Entrepreneurship (ACE) in March 2012, and the first applications were accepted in the summer of 2012.
Overall, the program funded the development and release of 315 applications during its three-year lifespan, selected from a pool of more than 4,300 applications from over 100 countries. Applications came from teams of independent software developers, who committed their own time and resources, and nascent developer studios that had only up to a couple of employees – both with an inexisten or modest track record in application development. Nevertheless, applications that got accepted to AppCampus generated nearly seven times more downloads and more than twice the revenue compared to an average application in the Windows Phone Store. Moreover, AppCampus attracted global coverage from mainstream outlets and partnered with reputable international accelerators, large telecommunications companies, and (semi-) governmental investors. As the board member from Aalto University acclaimed, “clearly AppCampus has proven itself as a model, how to develop or build the ecosystem and the developer community further”.

During AppCampus’ existence, the Windows Phone platform increased its market share slightly and grew its global installed base of applications from about 44,000 by the end of 2011 to over 600,000 by the end of 2015. AppCampus contributed to Windows Phone’s brief momentum when the platform realized the highest growth rate amongst all mobile operating systems in 2013 (Adika, 2014a) and was forecasted to remain the fastest growing from 2014 till 2018 (Adika, 2014b).

Our analysis of how AppCampus successfully engaged with complementors in the facilitation of complementary innovation for the Windows Phone platform reveals three themes. The first theme groups three constituent complementor engagement processes that AppCampus demonstrated. The second theme presents the boundary tensions that the platform program encountered while enacting these processes. The third theme classifies the mechanisms used by the platform program to mitigate the boundary tensions, enabling effective execution of the complementor engagement processes.

**Complementor engagement**

An analysis of the data revealed three complementor engagement processes: attracting complementors, developing complementors, and leveraging platform owners’ complementary assets.

*Attracting complementors*
To deliver on the purpose of releasing innovative applications onto the Windows Phone platform, it was essential for AppCampus to attract interest and quality application submissions to the program. The most powerful tool for doing so was the grant that AppCampus offered to developer teams. Given Windows Phone’s low adoption rate compared to the incumbents, this monetary incentive was considered a compensation for the risk of developing an application for a new platform.

AppCampus further tried to attract developer teams by raising global program awareness. From its start, the program team was ubiquitous in the mobile application world, “feeling the local pulse” by attending all major events, reaching out to developers and giving away AppCampus’ branded gadgets and t-shirts, often from an AppCampus-branded stand.

“Our goal for the first year has been to attract all the developers, so really reach out to them, and we’ve done that through different events, like Tech Crunch in San Francisco, or Mobile World in Barcelona. So, these major events, where you get to meet the developers through our partners, and make AppCampus a recognisable brand, and I think in that sense, we have succeeded.” (Alina, AppCampus marketing communications staff)

AppCampus even went beyond these developer events and tried to reach potential complementors in their local communities, by engaging program ambassadors or evangelists from the platform owners, host organization, other partners, and program alumni on a global scale. In addition to outreach via attending events or engaging ambassadors, AppCampus also managed to raise global program awareness through media coverage, initially via the communication channels of Microsoft and Nokia, and later via mainstream media which it built and maintained strong ties with.

As AppCampus specifically targeted innovative application ideas and tried to avoid developer teams that wanted to “port” their application onto the Windows Phone platform, they looked for developers that had been underserved by existing platforms, i.e. independent developers or nascent developer studios from countries where Microsoft and Nokia phones had a particularly high adoption rate, and where the financial incentive to apply for the program was perceived as being significant. This sourcing model was supported by recruitment networks of local Microsoft and Nokia developer support organizations in selected entrepreneurial ecosystems. Within each of these organizations, AppCampus had a dedicated contact person that helped to source local developer teams.
“We know [for example] Nokia people in China, Microsoft people in China, we have a lot of networks that know what we are looking for and they have our personal reference code and when they found local teams that they think suit our problem, they will encourage them to submit.” (Ville, AppCampus screening team lead)

**Developing complementors**

AppCampus aimed to develop the skills of funded developer teams and offer the necessary support to improve the success of their applications. It did so through education and training, promotional support, and monitoring application development.

The educational component of AppCampus was largely focused on user experience, design, monetization, localization, communication and marketing – areas where application developers often lacked skills and knowledge – and was offered through three tiers. The first tier, AppCademy, was a bi-yearly residential training camp in Finland that matched experts from the local entrepreneurial ecosystem and from within Microsoft and Nokia with selected AppCampus developer teams to provide hands-on training and coaching on a variety of technical- and business-related subjects. The second tier consisted primarily of an interactive e-learning platform with videos and material from AppCademy, open to all AppCampus developer teams. The third tier related to ad hoc courses and coachings offered at events to potential AppCampus participants and other interested parties.

AppCampus also provided promotional support for applications that had been released or were about to release, which it showcased on AppCampus’, Microsoft’s and Nokia’s communication channels and events, featured in the Windows Phone store, and organized release campaigns for together with the platform owners. As part of the promotional support, AppCampus connected program participants to relevant others, such as peers, publishers, press, and useful contacts at the platform owners. The latter, in particular, would have been difficult to reach otherwise.

“What we offer is the channels of Microsoft and Nokia and access to them, which is, for most of the developers, it’s out of their reach, because you don’t have the contacts and you don’t know how to get them, you don’t even know they exist.” (Teemu, AppCampus consultant on Windows Phone)

Monitoring application development was another process that AppCampus employed to develop complementors. For the applications to feel “native” or adapted to the style and software of the Windows Phone platform, AppCampus monitored the development of the applications so that
they corresponded with the phones’ and operating system’s unique features and key differentiation points, such as Microsoft’s software “metro”-style or Nokia’s hardware focus on near field communication, camera, and GPS. AppCampus also tracked the progress of application development and reacted accordingly, by setting targets and deadlines for developer teams that were not progressing as expected. Together with the quality control performed at the design and final release milestones, these efforts increased the quality of applications released by AppCampus-funded developers.

“After you have done applications with AppCampus, you know the quality. I mean, you are very good at quality at that point, and you normally don’t reach that level of quality if you are an independent developer because you don’t need to.” (Teemu, AppCampus consultant on Windows Phone)

*Leveraging platform owners’ complementary assets*

Asked for his main learnings from running AppCampus as a director, Paolo acknowledged:

“The way we managed to leverage the partners [Microsoft and Nokia] to amplify the message, I think that was very relevant. […] We were good, but it was great to be able to leverage something like that [Microsoft and Nokia]. You can’t achieve so much without, or without equivalent partners that help to distribute and promote that way.”

To leverage the platform owners’ complementary assets, AppCampus established cooperation with internal business units responsible for seed funding, store featuring, distribution, and communication. This was sometimes challenging. For instance, internal Microsoft and Nokia business units responsible for organizing seed or pre-seed programs did not always see the synergies between their initiatives and AppCampus and looked with ignorance or sometimes even hostility at the platform program. AppCampus tried to alleviate this by highlighting the complementarity of the program with the respective unit’s activities.

Leveraging the platform owners also required AppCampus to align its operations with the platform owners’ internal processes whenever possible. AppCampus’ program consisted of three main phases: selection, quality assurance, and marketing. The screening process evaluated submissions against Microsoft’s internal criteria for Windows Phone Store promotion, the quality assessment process made use of Microsoft’s internal initiatives’ application release certification tests,
and the marketing process ensured good communication with the platform owners to align application release dates with Microsoft and Nokia events.

“We [AppCampus] essentially needed some guidance from you know, from Microsoft initially; and Nokia, to kind of put more, you know, just put more focus on kind of aligning the strategy together, right? So, what is it that Microsoft and Nokia are doing to drive more successful developers? And then, how can we then make sure that’s aligned with how AppCampus is operating on a day-to-day basis” (Virginia, Windows developer programs director at Microsoft and board member at AppCampus)

AppCampus did not only align with the existing processes at Microsoft and Nokia, but also worked to align units within these organizations with some of its activities. For example, AppCampus instructed the local Microsoft developer support units for the Mobile Application Acceleration Camps, of which more than 60 took place globally in 2014, by providing guidelines and templates for how to run and keep track of the recruitment event, a 60-page gradebook for evaluating the developer teams, and an own referral page to communicate the results.

Establishing cooperation with internal units and aligning the processes were made possible by getting good access to Microsoft and Nokia. As such, most of AppCampus’ employees had worked at Microsoft or Nokia before and were able to use their network of former colleagues whenever possible. Moreover, in its second year of operation, AppCampus was assigned one dedicated point of contact at both Microsoft and Nokia and one full-time Microsoft-employee working at AppCampus. All of this helped to refer AppCampus’ requests to the right corporate business units and access points, build awareness of the program within the sponsor organizations, and look for ways in which the complementary assets of both organizations could be used for the sake of AppCampus or its developer teams.

**Boundary tensions**

Our second theme consists of the tensions that AppCampus continuously encountered while engaging with complementors. Three boundary tensions were revealed in analysing the data: fast vs. slow organizational clock speed, autonomy vs. control, and value creation vs. capture. These tensions were situated between platform owners and complementors, but also felt within AppCampus as it intermediated between these two parties.
Fast vs. slow organizational clock speed

There were two different organizational clock speed tensions between the platform owners and AppCampus-funded teams. Different to the more mature companies that Microsoft was used to working with, AppCampus’ participants were teams of independent developers or nascent developer studios that were short of resources or still building up their development expertise and needed time to be able to develop their applications.

“The average throughput time in a way is now around seven months. […] Microsoft, on their side in their normal developer cycle, they have a four-month average, but there are of course clear differences here, because they are dealing with mature companies, who have everything more or less in place, so on process and resource side.” (Tapio, head of ACE)

While AppCampus carefully tried to incentivize quick development by implementing staged grants and actively monitoring developers’ progress, it did not want to speed up the development process of the applications at the expense of their quality.

“We can give them incentives and push them to be quick, but there is also the downside… We don’t want the quality to suffer from that, so basically we’d rather see them make their application in a longer period of time, and make it really well, rather than quickly produce it.” (Alina, AppCampus marketing communications staff)

Additionally, there was the clock speed tension related to the decision cycles. Here, tensions stemmed from the developer teams being constrained by lengthy corporate processes. For example, one of the major slowdowns of the release process was AppCampus’ application release certification test, for which it used the release certification test that Microsoft used for its partners and “which was really long and dragged out” (Developer 1).

The tension of short vs. long decision cycles was also felt within AppCampus. On the one hand, AppCampus wanted to move fast and not be constrained by corporate processes. On the other hand, the organization was held back as it needed to be aligned with the platform owners to be able to leverage their complementary assets. For example, while AppCampus considered developing proprietary application release certification tests, it soon gave up these efforts given the time it would take and the limited organizational resources available to them.

“Sometimes big corporates [Microsoft and Nokia] are a bit slow and we [AppCampus] would want to move faster. The other thing is of course that we have a team of eight people, so
sometimes we are just out of resources. We just cannot move fast enough.” (Teemu, AppCampus consultant on Windows Phone)

**Autonomy vs. control**

A second boundary tension relates to autonomy vs. control. Microsoft and Nokia exerted some control over the complementors through a variety of mechanisms: stringent application process, review and release processes during the program, and development aid. These mechanisms were used to steer the application towards innovation and quality that felt native to the platform. This was argued to be beneficial for both platform owners and developers, as “developers might not always care about the design, usability, how it looks, does it work, [for example] is [the app] telling [the user] that it’s doing something or is it just doing something” (Teemu, AppCampus consultant on Windows Phone). However, a large part of AppCampus’ targeted audience were independent developers, which are often members of cultural collectives that typically cherish norms of autonomy and freedom (Qiu, Gopal, and Hann, 2017). Hence, although AppCampus’ help was strongly appreciated, they had to carefully manage the balance between helping vs. steering application development.

“At first, I was kind of angry that they [AppCampus] were making me, like, adjust margins on my game, and, you know, live tiles and all these things. I'm like, you know, “I just got 800,000 [downloads] in such-and-such time using this other...” - you know. “What the hell am I fixing here?” (Developer 2)

Furthermore, monitoring of the applications was sometimes seen as a restriction for the developer teams. In the spirit of the “lean startup” (Ries, 2011), software startups are likely to “pivot” or change course in the early phases of product development. However, AppCampus’ conditions did not allow for these kinds of major changes. As such, the release milestone and corresponding funding was conditional upon fulfilment of the application criteria as mentioned in the initial submission. In the time between program admission and application release, some developer teams had changed their applications and opted out because of these constraints or were forced out of the program when their applications did not match their initial ideas any longer.

The tension of autonomy vs. control was also perceived within AppCampus. In the first year, AppCampus got full autonomy to make the decisions that they deemed necessary. For instance, whereas initially, funding decisions were made by the steering board, they were soon handed over to
an investment board of senior people at AppCampus and Aalto University and eventually simply to
the screening team, with only borderline cases needing approval from the head of AppCampus.
Consultation with the board was reduced to a minimum and several interviewees mentioned “asking
for forgiveness rather than permission”, pointing at the post-hoc consultative function of the board.
This came to an end when AppCampus directors realized that a stronger involvement of the platform
owners was needed in order to fully leverage their complementary assets, which would come at the
expense of autonomy.

Value creation vs. capture
A last boundary tension that was revealed in the case relates to value creation vs. capture. This tension
manifested itself between the platform owners and (potential) complementors but also between the
platform owners and the boundary organization.

Besides the grant and the other resources provided by AppCampus and the platform owners
that enabled complementors to deliver a better application with ample support, participating in
AppCampus also involved some restrictions as to how value could be captured. While AppCampus’
offer was attractive to some, the exclusivity that was tied to it prevented others from applying or
hindered them down the line in finding follow-on investment. Moreover, AppCampus was advising
most complementors to go for a freemium model with in-application purchases. However, not all
applications benefit from a freemium model, as mentioned by one of the developers:

“AppCampus has been great, yes, but I think it's very heavily focused on downloads. Which I
can understand because its [from the] platform holders, they [Microsoft and Nokia] want the
downloads, that's what they want. That's not necessarily what's best for everybody.”

A second manifestation relates to the tension between AppCampus and the platform owners.
While both Microsoft and Nokia had committed to the program and were pleased with its results,
there were constant discussions with regards to the balance between efforts put into value creation
and how value could be captured from the initiative. For example, whereas AppCampus saw the
educational component of its program as an essential part of its role in the ecosystem the platform
owners questioned the value of this.
“Things like the whole AppCademy, the one month lump thing, I think some… Paulo [director AppCampus] and Pekka [head of AppCampus] seem to think that it has [a] certain kind of value. I don’t think Virginia [Windows developer programs director at Microsoft and board member at AppCampus] and people in Microsoft understand the value of that thing in the same way. Like, if you think about just the number of downloads that have come out of that money spent… I don’t think you can see a return on investment there. But if you think of the goodwill and of the noise and of the profile that they have brought to AppCampus and to Windows Phone, I think there is definitely value in that.” [Julio, AppCampus operations staff]

Coping mechanisms

Our third theme reveals the mechanisms that AppCampus adopted to mitigate the boundary tensions. We found three coping mechanisms: decoupling practices, negotiating instrumental changes, and gaining credibility.

Decoupling practices

One mechanism that AppCampus gradually adopted to mitigate the tensions it encountered was decoupling practices, complying with external expectations in a symbolic rather than a substantive way (Fiss and Zajac, 2006). Whereas, at the start, AppCampus tried to comply with both startup as well as corporate practices, it soon discovered that this situation created frictions and was not going to enable them to fully leverage the corporate platform owners. The organization gradually became more and more aligned with the platform owners, while maintaining its startup image.

“We try to be as little corporate as possible because entrepreneurs and developers typically don’t like the corporate thing […] And that [young and dynamic image] was just to make sure that we don’t prevent teams from applying, because they think we smell too much corporate. That’s always the antithesis of the entrepreneur because with corporate, slow, long cycles and big decision chains, they’re running around and so on. We wanted to totally avoid that in terms of image.” (Paolo, AppCampus director)

Besides dissociating from corporate practices, AppCampus also continuously signalled its independence from the platform owners. Being hosted by a neutral party such as Aalto University enabled the platform program to bring in complementors who would otherwise not have been interested.

“I think it [being hosted by Aalto University] helps, because normally when I meet people, the first thing they tell me is: “Are you Nokia? Are you Microsoft?” “No no, we are AppCampus”, so it’s kind of neutral, and it helps to approach different [kinds of] people, and I do believe that that is a big value, I mean, big corporations might be a bit frightening to small developers, so these guys come to see us and they feel more comfortable.” (Chris, head of operations at AppCampus)
Negotiating instrumental changes

As the ecosystem and each partners’ interests changed, so did the expectations and requirements from the platform program and its precarious place in the ecosystem. In order to manage this evolving situation, AppCampus had to continuously negotiate instrumental changes, whether initiated by themselves in response to some encountered difficulties or initiated by some of the partners in response to changing expectations from their side.

First, AppCampus tried to bridge developer and platform owners’ interests. For example, initially set at six months, the exclusivity period soon proved to be an inhibitor for incentivizing investment-worthy businesses, as both investors as well as the developer teams worried that this requirement tied them to an unproven platform for an excessive length of time and prevented them from profiting from their application on more established platforms. AppCampus staff managed to negotiate it down to three months, which resonated better with the complementors’ interests.

Second, AppCampus negotiated changes in response to new contextual factors, such as the evolution of the platform. One such instrumental change revolved around the innovativeness aspect. Whereas, at the start, the whole application idea needed to be innovative to the industry to be eligible for AppCampus, the increasing saturation of the application market made it difficult to find good novel application ideas that could still make a difference. Therefore, AppCampus negotiated more flexibility in the innovativeness aspect, allowing it to accept developer teams that already had a proven track record on other platforms but would add new exclusive content or features to their Windows Phone app.

Smaller changes relating to the structure and governance of the platform program, the people involved, the outreach activities and the support from the platform owners, were continuously negotiated and applied. Asked for the role of Microsoft and Nokia in the decision making of AppCampus, quality assurance manager Tiina said:

“It’s their [Microsoft and Nokia] money [that] we’re managing, and they’re in the board, so of course, we are listening to them. But at the end [of the day], of course, we try to do and also propose them how it will be best in this setup. We are listening, but trying to improve, as well, on top of that.”
Gaining credibility

Gaining credibility was the final mechanism that AppCampus employed to mitigate boundary tensions. AppCampus managed to gain credibility by affiliating with reputable partners, getting early traction and gaining the trust of both platform owners and complementors. In its first year of operation, AppCampus signed collaborations with government agencies from Finland, Sweden, UK and India and partnered up with established players in the ecosystem, such as World Bank’s Infodev incubator, Telefonica’s Wayra accelerator and large media companies like China Mobile, Deutsche Telecom and Orange, whose explicit support lend credibility to AppCampus as “getting the World Bank and Wayra and these kind of things [partnerships] have made a lot of credibility.” (Will, ACE director)

AppCampus’ early traction in terms of number of submissions – reaching 500 submissions within the first month after launch – and releases – with its 4th released application reaching half a million downloads within just one year – also helped in building credibility. Strengthened by these early results, Microsoft’s and Nokia’s developer organizations acknowledged the value of AppCampus for their own activities and were more open for collaboration.

“I think one big sort of change during this year [2013] has been more or less that clearly Nokia and Microsoft organizations have sort of understood that AppCampus is really beneficial for them, and that it’s good to work with us and help us, so we are now sort of involved with a lot of Microsoft launch events, whatever they have. The same goes for Nokia as well. [...] So I think that we have sort of shown that we do execute, there is good output from here, and now the people are starting to believe that.” (Tapio, head of ACE)

AppCampus also gained credibility from both platform owners as well as complementors by becoming trusted. It did so by communicating with transparency about the evaluation of submitted applications and creating an environment of confidentiality with the developer teams where there was a “one-to-one trust relationship”. With regards to the platform owners, AppCampus managed to gain trust by being honest about which applications to support and how to collaborate best.

“More and more, I see the people [within Microsoft] come [to AppCampus] and say: “Hey, we know that you have great things, please give us ideas what we could promote and what to do together.” And the reason why they come, I would say it is one specific thing, although we have a high quality title, that’s one thing. But then, we are trusted. So when we say that “Hey, we would like to work together with you, and we have this and this.” So now they have 110% trust that: “Hey, those guys really have something, and they have brilliant ideas [for] how to work together.”” (Timo, marketing manager AppCampus)
DISCUSSION AND CONTRIBUTIONS

We began this paper by asking how a boundary organization can successfully engage with third-party complementors to facilitate complementary innovation for a new platform. Our findings on AppCampus’ experiences in engaging with startups to facilitate the development of mobile applications for the Windows Phone platform generated several insights.

A model of complementor engagement

As shown in Figure 1, the AppCampus case revealed three constituent processes of complementor engagement, how and by which tensions they are hindered, and how the platform program as a boundary organization can mitigate these tensions.

A boundary organization such as AppCampus, engages in three different complementor engagement activities. Attracting complementors focuses on reaching out to potential complementors to gain interest in joining a platform. Developing complementors involves developing the skills of participants and offering support to aid the success of their complements. Leveraging platform owners’ complementary assets relates to the efforts of the boundary organization towards the internal units of the platform owners in order to benefit from their complementary assets.

In engaging with complementors, a boundary organization encounters boundary tensions between the (potential) complementors and the platform owners as well as between the boundary organization and the parties it mediates. Fast vs. slow organizational clock speed relates to the tension in speed and decision cycles between the (often smaller) complementors and the (often more established) platform owners, and the boundary organization as a bridge between them. Autonomy vs. control refers to the tension between the complementors’ aim to maintain control of their complements and the decisions affecting it, versus the platform owners’ desire to exert control for their own interests (see also Wareham et al., 2014). Here, the boundary organization perceives a trade-off between being autonomous but risk losing support from the platform owners or being controlled but risk losing support from the developers (see also the case of refugee councils in Lawrence and Hardy, 1999). Value creation vs. capture revolves around the expropriation tension in
collaborations between parties with different power (Katila et al., 2008) and the intermediary’s role of developing the ecosystem in the long term versus the short-term targets of most platform owners’ units.

To mitigate these tensions, AppCampus adopted three coping mechanisms. Decoupling practices enables the boundary organization to be seen as legitimate and appealing towards complementors with different norms and practices than the platform owners – while preserving the ability to leverage the platform owners’ complementary assets. Similar to extant research on boundary organizations (Guston, 2001; Parker and Crona, 2012), the AppCampus case further demonstrates the importance of continuous negotiation between conflicting demands. Gaining credibility with both platform owners and complementors is a last coping mechanism adopted by AppCampus, and resonates with the experiences of Intel’s Architecture Lab: “Companies have come to believe that IAL people are not overly biased toward Intel’s short-term interests but are looking out for the good of the industry overall” (Gawer and Cusumano, 2002: 96).

Figure 1 further shows that complementor engagement is just one of the measures that can be taken by a platform owner to grow an ecosystem and that other mechanisms related to platform pricing, architecture, and governance also affect platform emergence.

--------- Insert Figure 1 here ---------

Above, we have summarized the process model, and found further proof for our findings in extant research. Next, we discuss our main contributions.

**Contribution to literature on platform ecosystems**

While other platform studies have touched upon some aspects of the facilitation of complementary innovation through proactive engagement between platform owners and complementors (Gawer and Cusumano, 2002; Yoffie and Kwak, 2006; Ceccagnoli et al., 2012; Weiblen and Chesbrough, 2015), we group and define these efforts using the term complementor engagement and provide the first detailed model of the processes, tensions and coping mechanisms involved. In doing so, we make several contributions and open up avenues for future research.
We add to our understanding of how platforms can be established (Ansari et al., 2016; Dattée et al., 2017) and how platform owners can compete (e.g., Gawer and Cusumano, 2002) by considering the mechanism of complementor engagement – distinct from well-known mechanisms related to platform pricing, architecture, and governance. As competition between platforms becomes prevalent, there is a greater need to understand all strategic options open to platform owners in facilitating complementary innovation. In particular, little is known about the strategic interactions that can be used to attract complementary innovation (for an exception, see Cennamo and Santalo, 2013). By highlighting the mechanism and constituent processes of complementor engagement, we provide such insights. Future research could explore the effects of this mechanism on the subsequent amount, quality, and variety of a platform’s complementary innovation, while taking into consideration the maturity of the industry. As such, complementor engagement may be especially relevant for new entrants in established platform industries where industry norms and technological standards have emerged and stabilized into an industry architecture to which new entrants largely have to adhere if they do not want to compromise the legitimacy of their platform (Jacobides, Knudsen, and Augier, 2006).

We further contribute to the literature on platform ecosystems by highlighting the role of dedicated units that mediate between the platform owners and complementors. Ecosystem research at large has so far focused on the role of the “hub organization” which undertakes orchestration processes to coordinate, influence, and direct a network (Iansiti and Levien, 2004; Dhanaraj and Parkhe, 2006; Sawhney and Nambisan, 2011). While this literature has considered interactions with complementors as a part of the hub organization’s activities, practice points at complementor engagement as one of the primary functions of a hub organization. Especially in digital platforms, platform owners such as Microsoft, IBM, and SAP often facilitate the participation and contribution of third-party complementors to the platform ecosystem through software tools, developer portals, and platform programs. While the systems literature has looked at the role and evolution of such boundary resources (Ghazawneh and Henfridsson 2013; Eaton et al., 2015), our study reveals the
**processes** of engagement employed by boundary organizations residing between the platform owners and complementors. We argue that the higher order processes of complementor engagement exhibit similarities across different types of boundary organizations in a platform ecosystem context, ranging from accelerators funded by the platform owner to business units in charge of deploying toolkits, trainings and portals. However, given the growing importance of these complementor engagement initiatives and the limitations of our study, we urge future research to explore the different practices and structures of boundary organizations and their role and effectiveness in engaging with complementors and facilitating complementary innovation. For instance, future studies could investigate whether the pursuit of different strategies to simultaneously maximize the amount, quality, and exclusivity of complements may be sub-optimal relative to pursuing one goal at the time, and whether it might in fact deduct from the initiative’s success, similar to what has been found at the platform level (Cennamo & Santalo, 2013).

**Contribution to literature on boundary organizations**

We contribute to the literature on boundary organizations by extending its current focus on the science-policy boundary to the platform owner-complementor boundary and identifying the boundary tensions that platform programs encounter and cope with. As catalysts of inter-constituent collaborations, boundary organizations are positioned on the interface of different social domains. In digital platforms, platform programs will have to span the social domains of the competitive pressures of the platform market and the professional standards of the developer community (Qiu *et al.*, 2017). While the boundary between the corporate world and the developer community has been the context of study in boundary organization literature before (O’Mahony and Bechky, 2008), the literature’s predominant focus has been on the boundary between science and policy.

Furthermore, the literature on boundary organizations has mainly adopted a static perspective using archival or retrospective data or data collected at one point in time (for an exception, see Parker and Crona, 2012). AppCampus gradually moved its position from the center to the border organizations over time, by first largely adhering to the developers’ norms to gain their legitimacy.
and gradually moving to the platform owners to fully leverage the latter’s complementary assets.

Future longitudinal research on boundary organizations could further explore the rationale, inhibitors or enablers, and transition conditions of such changes.

CONCLUSION

Proactive engagement with potential complementors should be considered as an additional mechanism to facilitate complementary innovation – distinct from well-known mechanisms related to platform pricing, architecture and governance. Our study elucidates the constituent processes of complementor engagement, shows that it involves challenges arising from the boundary tensions between the platform owners and the (potential) complementors, and proposes mechanisms that a boundary organization can adopt to mitigate these tensions. It contributes to the literatures on platform ecosystems and boundary organizations and opens up new avenues for research on the strategic use of complementor engagement, its effect on platform emergence, and the roles, practices and effectiveness of different types of boundary organizations mediating between platform owners and complementors.
References


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<td>Nokia</td>
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<td><strong>Secondary sources</strong></td>
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<td>142</td>
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Table 2. Data structure including representative quotes and first order codes underlying the themes

<table>
<thead>
<tr>
<th>Third order codes</th>
<th>Second order codes</th>
<th>Representative quotes, including first order codes in-between brackets</th>
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<tbody>
<tr>
<td><strong>Complementor engagement</strong></td>
<td>Attracting complementors</td>
<td>We have have the local teams to help drive similar activities but in a little bit lighter fashion and do a two-day recruiting event; and they will provide coaching and support. And try to essentially get the teams in a better shape, so that they can submit their ideas to AppCampus and increase the success rate, and help us pre-screen those teams.” (Virginia, Windows developer programs director at Microsoft and board member at AppCampus)  [Forming local recruitment networks]</td>
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<td>“We are mostly hiring ambassadors and champions that might be also Microsoft or Nokia champions, that are already working as ambassadors in those respective countries to also wear the hat of AppCampus and raise the awareness and evangelise on the opportunity.” (Pekka, head of AppCampus)  [Raising global program awareness]</td>
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<td></td>
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<td>“On average, an iOS application [makes] 6,900 USD revenue throughout the lifecycle of the application. Our lowest, my thinnest cheque is four times that money, with zero downloads. And we coach those teams to be better prepared to really turn into successful developers that make a living out of this. Who’s doing that in those other ecosystems? Nobody.” (Pekka, head of AppCampus)  [Incentivizing participation]</td>
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<tr>
<td>Developing complementors</td>
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<td>“We are just educating the teams how design is everywhere, even when cooking. We have three French chefs who will be speaking about cooking while they are cooking. […] That really opened the guys to think, and invite them to think, that design is everywhere” (Pekka, head of AppCampus)  [Educating and training]</td>
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<td>“Nokia invited us to this global mobile internet conference next month. There are 11 teams going […] We are going to be there with a big screen and our demo. We are planning to air the demo. So that is priceless, you cannot get that with money; even having a small booth costs $10,000 for you and everyone gets it for free so it's priceless what we have got from here [AppCampus].” (Developer 3)  [Providing promotional support]</td>
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<td></td>
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<td>“So once they pass the design milestone, that’s something that we review and comment, we send back the comments in the design phase, okay, now you should do this, and this, and this, and…to improve, and do metro style, or Windows Phone style.” (Tiina, quality assurance manager at AppCampus)  [Monitoring application development]</td>
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<tr>
<td>Leveraging platform owners’ complementary assets</td>
<td></td>
<td>“They [Microsoft and Nokia] are very results oriented – so, what’s my target; what’s my KPI? And what’s the measure and where am I at the moment? If you’re helping in that direction, yes. If it’s not helping [in] that direction, then, thanks – bye. […] For instance, I can further fund some of the teams, or the teams they send us if you accept, then they are contributing to reaching their target in terms of cases handled. If they don’t perceive that, then yes, they have no interest in leveraging us directly. But if you sit down and so on, then it gets a little better […] and that normally helps to develop the relationship and the cooperation.” (Paolo, AppCampus director)  [Establishing cooperation with internal business units]</td>
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<td>“We ended up agreeing with Microsoft/Nokia that, for instance, we leverage… we try to align to the Microsoft processes, and we leverage, for instance, Microsoft to certify that we have a legal entity when you do registration to Microsoft Development Centre.” (Paolo, AppCampus director)  [Aligning operations]</td>
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<td>“Of course, personal connections [are important] to make things happen; to get things done, especially when leveraging partners in a loose relationship like these ones where there’s no necessarily commercial relationship.” (Paolo, AppCampus director)  [Getting good access]</td>
</tr>
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“Well, the first phases were pretty quick. I think their templates and the stuff to help you create the documents were pretty good, the tutorials and stuff. The last part of the design and release phases; they were pretty slow. When you send an email to them it could take a week for them to respond. When you do rapid development it's not good when you have to wait for a week to get an answer.” (Developer 4) [Short vs. long decision cycles]

“The lead time has been the surprise we had. We hadn’t really thought about the challenge that a young team has, getting out high quality stuff, because the expectation in terms of quality is also very high.” (Mika, director for developer and platform evangelism at Microsoft) [Slow vs. fast application development]

“The partners [Microsoft and Nokia] would like to know more exact dates, when what is coming out, and you know, kind of, how you see it in more traditional projects… in in-house project maybe, that okay, we have this and this, and this project, or these applications approved, these are out [on] these dates. But obviously, as those [application developers] are not our employees, we cannot control their resourcing, their time usage, and so on, the quality, how the… the design of the application… [overall] the release candidates come in, we cannot, maybe, affect as much as we and the partners would like us to be able to affect” (Tiina, quality assurance manager at AppCampus) [Helping vs. steering application development]

“They [AppCampus] give 30% [of the grant] after [the design milestone] […] Until you get to this 30%, you have to do everything on your own. So you don't get what you really want. Seriously, if I [would have] had this money, I wouldn’t just [have used a design template] […] It's good money, it's nice, but it's like you've finished everything so you don't need the money anymore. But again, so I think it's much too late, much too late, it should come up front.” (Developer 5) [Monitoring vs. restricting application development]

“It’s a bit less flexible, a bit less, kind of, “let’s do it”, and then kind of “we don’t really follow the rules”, [this was] what Pekka was bringing. Basically, it’s a bit more, kind of, dealing with the big Microsoft machines, but then again, that’s very on the, kind of, maybe a bit minus side. On the plus side, it’s more on the promotion, the applications, and using this huge machinery of Microsoft to promote the applications, which is very good.” (Chris, head of operations at AppCampus) [Program autonomy vs. platform owner leverage]

“Value creation vs. capture

In order to try to bring an element of differentiation from the other ecosystems… and, in a way, it’s like, “Okay, I’ll give you free cash. In exchange, I don’t take equity – so it’s not diluting equity, no revenues, no IPs – but ask something in exchange”, and that something in exchange is actually the innovation aspect and exclusivity […] In some markets, especially like US, that are very developed, or, in cases where the teams are very strong and very good, we might prevent those teams to consider applying because of the costs.” (Paolo, AppCampus director) [Exclusivity criterion vs. quality of developers]

“This game was never designed as a free to play game and it doesn't have any kind of monetisation in it which then makes it very difficult to then slap on when it's actually already made and I don't want to do that because I've seen that done before and it doesn't work. I would prefer to have a quality small downloads of people who really enjoy playing it and enjoy it for what it is than millions of downloads and slap loads of advertising in it. I've sort of rebelled against the free to play thing.” (Developer 6) [Free vs. paid applications]

“We are doing a fundamental part [in building the Windows Phone ecosystem] and they [Microsoft and Nokia] acknowledge… but it's not, let's say supportive from the priorities or from the KPI's that they have. So basically, they tell you “Yeah, cool, that's relevant, but that's not what is measured””. (Paolo, AppCampus director) [Long term ecosystem vs. short term business unit objectives]
“Because you go to these [mobile industry] events, and you always see people very corporate, and dressing up, so we thought it would be fun to make a difference and dress differently, so everybody could see who the AppCampus staff are. So, we wore those [hoodies].” (Alina, AppCampus marketing communications staff) [Dissociating from corporate practices]

“We love to be in a fashion where we are not a company, but we can still run the operations, like if this was a company […] We need to look like an independent phenomenon in the eyes of the developers. So that whatever we do with them, it’s a one-to-one trust relationship, and everything that happens in that axis happens confidentially.” (Pekka, head of AppCampus) [Signalling independence]

“Nokia and Microsoft both realised that maybe the best way to address these talented minds, globally, would be putting…hiring somebody that would be… put into a neutral body, that would be inside… coming from inside the university, such as Aalto [University], who has a reputation in this area.” (Pekka, head of AppCampus) [Being hosted by neutral party]

“We started with that model that we had, instead of design, we had beta. But it appeared to be really quite difficult to say when a beta application is good enough to pass. Well, beta might crash, beta might not be that nice looking, so it was a bit vague to say if it’s okay or not. So we wanted to change it more towards the design. It’s even cheaper to fix the paper than… when you have already coded something. So it makes more sense. […] [Some developer teams] want to start the coding immediately, and they’re, like “Oh, why? We don’t want to do this, this doesn’t make sense.” […] But we are… we… because we need to have some kind of checkpoints, so we chose these checkpoints.” (Tiina, quality assurance manager at AppCampus) [Aligning program with platform evolution]

“Now that, basically, the overall Windows Phone ecosystem started to be developing in the right directions. It’s no longer at a very early stage, but it starts to be recognised as third ecosystem in the world, starts to get traction in a number of countries and so on. They basically wanted to shift our focus from the initial one that was, actually, to help to populate the Windows Phone ecosystem, shift it more heavily into creating, identifying and, basically, creating success stories and hero cases that would actually prove that you can be successful in terms of downloads and in terms of revenues and eventually be, you know, create a halo effect for others to be attracted and to sit as a reference case.” (Paolo, AppCampus director) [Adapting internal processes]

“So I was looking at those guys [team Ovelin] and they were just coming back from AppCampus, the second or the third edition I believe. Those are the guys from Guitar Tuna […] They were there at a big conference presenting AppCampus from Microsoft just after Nolan Bushnell from Atari was telling us his story. So you can imagine how big the impact was. You have a speech, there's Nolan Bushnell [founder of Atari] introducing them [developers from GuitarTuna], there is this, and then there are the guys talking about AppCampus. You are like, “Wow, this is the end of the world. The top - I want to be there.” So I went back home, I looked at the guys [co-developers] and said, “You want to go there?”; [they said] “Yes, let's go”’” (Developer 7) [Affiliating with reputable partners]

“I have requested that we need to have a story why this [or that] Application should be promoted. Because, you know, there are so many developers saying: "I want my title promoted because it’s just so good". Our story is: “Hey, we have good titles […] And it’s really something good, when we say it’s good.”” (Timo, marketing manager AppCampus) [Gaining trust]

“Now that, basically, the overall Windows Phone ecosystem started to be developing in the right directions. It’s no longer at a very early stage, but it starts to be recognised as third ecosystem in the world, starts to get traction in a number of countries and so on. They basically wanted to shift our focus from the initial one that was, actually, to help to populate the Windows Phone ecosystem, shift it more heavily into creating, identifying and, basically, creating success stories and hero cases that would actually prove that you can be successful in terms of downloads and in terms of revenues and eventually be, you know, create a halo effect for others to be attracted and to sit as a reference case.” (Paolo, AppCampus director) [Aligning program with platform evolution]

“At the beginning we did, for instance, first round, we went to the board to say, hey, those are the… from the deal flow, those are the best cases. We would like to assign 20, 50, 70 thousand to those cases. However, it was pretty obvious that that will never work because we meet once a week, and with such a deal flow it didn’t make sense, so we immediately proposed, hey, let’s set up… let’s agree to set up an investment board that one can work on, on a weekly basis, and you agree on what are the rules that the board uses to decide, and who are the people running the board. And then we hold hands to make sure that you’re comfortable enough, you know, and they agreed on nine months.” (Paolo, AppCampus director) [Adapting internal processes]
Figure 1. Process model of the dynamics that unfold during complementor engagement through a platform program. Note: squares represent the actions of the platform program, dotted squares refer to the main parties involved, and environmental dynamics and tensions are represented by ovals.