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# Applications' co-production in forums: Insights from the interessement model

**Abstract**

Google Play, formerly known as Android Market, had emerged as a major actor on the market of smartphones' applications. Its success depends on contributions of various developers and on their interactions with early adopters in forums. Contrary to previous research that mainly focused on the individual features of developers, this paper puts the emphasis on the collective dynamics of the induced co-production. Content analysis of 184 threads promoting members' applications in a French newsgroup sheds light on the role played both by creators and followers of topics, and on interessement techniques enhancing contributions and applications' development efficiency.

**Keywords***: co-production, interessement techniques, whirlwind model, development of innovations*

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## 1. Introduction

Google Play (formerly known as Android Market), the official online store of Android operating system's applications, enjoys a massive growth despite facing fierce competition. 520,000 applications had been downloaded by the end of 2011 (the sum of all downloads being over 3 billion), and the platform is profitable to Google since 2010. Such a development is characterized by its open source orientation, related to the use of Linux Kernel in its 2008 tool kit, and mainly relies on the contributions of various developers, professional or not. To understand how their applications are transformed by external actors is a major issue for Google.

For marketing research, this implies knowing what applications are most likely to be successful on a given market and how the production and distribution of satisfactory applications to the final consumer could be facilitated. Here comes again the now classical question in co-production marketing research, and/or co-creation of value added (Vargo & Lusch, 2004). This research is a contribution to the study of this collective process through the example of the Frandroid forum. Our premises are that the accurate unit of analysis in this matter should be one topic thread dedicated to a given product, and that the innovation processes, rather than following a linear path starting on the original post of the thread, should depend on a gradual interessement of the participants, who are the only ones able to actually enhance the validity of the applications submitted to evaluation. We here expose and discuss the interest of our approach compared to existing literature, our methodological choices, and our results concerning the exploration of posters' interactions.

## 2. Literature Review

Despite the fact that this kind of platform was announced as a major economic model in years to come, marketing research on this topic remains scarce. Only the issues of the motivations to develop applications for the platform and the characteristics of 'winners'—the people producing the most innovative applications (Noordhoff & Kleijnen, 2011)— have been explicitly addressed. These researches provide insights of who are the early adopters of the platform, and shed light to the influence of the weakness of barriers to entry to this kind of activities, as well as the one of the perceived assets— both technical and commercial—of the platform according to the developers (Bergvall-Kåreborn et al., 2010). The most successful developers show distinctive characteristics as regard to their use of community-specific language and to their management of both temporality of innovations and interactions on the discussion board (Noordhoff & Kleijnen, 2011).

Such researches are implicitly linked to individual approaches of the development of innovations, echoing works on 'lead users' (Von Hippel, 1986). They have to be completed by providing a refined understanding of the use being made of these platforms, and of the set of tools used by the communities on at least three points. In fact, the co-production associating developers and consumers features a strong community dimension which has been broadly studied in other contexts (e.g. Füller, Bartl, Ernst and Mühlbacher, 2006; Kozinets, Hemetsberger and Schau, 2008; Schau, Muñiz and Arnould, 2009). These studies show that the norms driving the community, among which the type of platform, have a strong influence over the result of the co-production process. Similarly, the tool kits being used induce co-productions with uncertain results in regard to how easily they could be achieved (Franke & Von Hippel, 2003). Those two points are important for two reasons. First, the communities frequently are self-proclaimed as communities. Second, the tool kit, because it is open source, requires some knowledge of how the market and the community work.

Thus, our research tries to link the three following aspects of the co-production process: contributors, collective framework, tool. Such an approach is close to the innovation conception peculiar to the whirlwind model (Akrich, 1998), according to which the innovation has no clear point of departure—for instance, the characteristics of the innovations—and is gradually designed through successive stages which allow its re-qualification and rest upon the contributions of the different actors of the process. It depends on the interessement process through individual objects and strategies which involve the members of a shifting network.

## 3. Methodology

This research aims to explore the modalities of the co-production of Android applications through discussion boards, in the preparation of their commercialization. The first step of the gathering of information consists in the identification of a relevant forum, that is to say a discussion board featuring numerous threads and replies. Its functioning should favour dialogues over individual performance, contrary to what the official Google forum for developers does. The Frandroid forum perfectly matches our requirements.

The Frandroid forum comprises a "Your creations of applications/projects" section dedicated not only to the diffusion of fully developed applications, but also to the forming of new projects. It is a very dynamic section: it carries more than 1,250 threads with almost 20,000 replies. Threads have been chosen as the relevant unit of analysis to understand the collective work achieved by contributors and show the evolution of the selected applications. The data we gathered have been picked up because they were recent, which means we only selected threads with replies posted in the last 90 days before our query. On the 221 threads selected, 37 were rejected for being away from the point. Some were considered as such by the very members of the forum, some were because they did not pertain to the development of Android applications (e.g. spamming messages), and some were because it was impossible to accurately determine the contents of the thread. In addition, the rejected threads only show a mean replies' number smaller than 2. In the end, the collected data comprise 184 topics.

The analysis was conducted following a two-step procedure. First, we categorized the first posts according to the stage of development of the application or project. We used the stages of the linear innovation process designed by Feldman & Page (1984): search for ideas, selection of ideas, analysis, test, and commercialization. For that last category, we substituted the notion of diffusion, which better represents the market of Android applications since a large proportion of them are free. To categorize these stages, one has to detect matching verbatim within threads, among the verbatim emerging from a first analysis of the contents of messages (cf. Table 1). Second, we analyzed the contents of the threads to decipher what were the recurring positions stated by the contributors, as well as the operations which had been realized. Due to the requirements for this paper, the results of this analysis will be presented from a single case, which was selected because of its typical characteristics.

## 4. Results

The selected sample allows us to describe the expected usefulness of the forum contingent on the expectations being formulated in the first messages of the thread and to explore the collective construction of the applications on the discussion board. The ability of interessement of one's interlocutors appears to be crucial in order to evaluate the effectiveness of the development, or the improvement, of the application.

### *4.1. Stages of Development and Perceived Usefulness of the Forum: Beyond Promoting*

We can draw several conclusions from the categorization of the first posts according to the stages of development of the classical linear model. First, we notice that stages that should not appear in this subdivision of the forum—for they are a priori away from the point—are nonetheless present. This is the case of the diffusion stage. The presence of contents related to the diffusion stage reflects two specific customs of the forum, and by extension of this kind of open innovation platform.

| Stage of development | Search of ideas | Selection of ideas | Feasability analysis | Development | Test | Diffusion |
|---|---|---|---|---|---|---|
| Typical expected verbatim | Explicit request of the idea of an application to be developed | Request of advice about alternative ideas | Request of advice about the feasability of the project | Announcement about a projet being developed/Request for technical help | Request for advice/Call for testers | Announcement of the launching/Links to Google Play or other distribution methods |
| Number of posts | 4 | 0 | 30 | 16 | 69 | 128 |

**Table 1: Distribution of the development stages of applications in first posts**

In effect, the request in the first post could be related to several stages of development at once. Here, we can recognize the principles of joint engineering (Clark & Fujimoto, 1991), consistent with the constant beta-culture peculiar to this kind of product/service. Thus, 59 messages are related to both the announcement of the diffusion and the request for review of ergonomics or features, that is to say both diffusion and test stages. Three other messages consist in diffusion announcement, test, and development requests, which show how various the expectations of first posters are.

Excerpt from first post — Thread #166

*Hello everyone!*

*I'm glad to post for the first time on this forum I have only been following since quite recently.*

*I'm taking advantage of the situation to promote an application I just published: [name of, and link to the application].*

*For now, there are only a few features, but I'm adding new ones as one goes along! I'd like to receive reviews for bugs, and also suggestions and comments about my first application.*

*Thanks for reading my post, I wish you all have a nice week-end.*

The variety of expectations is confirmed by the presence of first posts about matters which are upstream from the innovation process. Thus, consumers suggest new ideas to be developed by expert contributors. The dissatisfaction arising out of the gaps in the market can also be the source of creativity for some developers, who are close to the lead users' definition (Von Hippel, 1986). In both instances, the forum allows the offer to meet a demand which is beyond the promotion of existing applications. As it acts like a gathering point for people perceived as various (users, testers, coding experts…), the forum is assimilated to an "in miniature" market rather than to a mere community of computer specialists.

Excerpt from first post — Thread #6

*Pirates and Island is an exclusivity for Android and galaxyS. Thanks for giving your opinion about the game if you download it. We are a tiny 3-person French staff and we are commercializing a tile-based, rook-by-rook board game (which can be played alone…). If this game would find an audience, we would develop it for all the Android platforms but, as you now, the formats are splitted up, and that forces us to focus on the most used models first. […]*

Excerpt from first post — Thread #173

*Since the last FREEBOX V6 update, you can listen to the music located on your iPhone directly on the device […] I found some applications but they're all shareware… Wouldn't anyone design a software to choose where the music would be played (from the phone's speaker or through AirPlay)?? I'm too much of a rookie and I couldn't develop it myself.*

*Here is a link to information about the Freebox : [link].*
*Hereupon, it's yours to decide.*

Excerpt from first post — Thread #56

*I created a modest application during my free time, which can be used to send automatic texts very quickly to a single recipient (your girl/boyfriend). […] There are other applications for that but they are not convenient, so I created mine… so that I can send love messages to my chosen one (cute, isn't it?).*

### *4.2. Discussion Board' Threads as Places Dedicated to the Collective Construction of Applications*

The analysis of the threads confirms how important the collective work on the project being submitted is. This is also true about projects which are supposed to be almost finished when initially submitted. The contributions of the forum's members are as various as the initial requests of the creators. They stake technical development competencies (coding hints, help from tutorials, suggestions of solutions which have already been used for other purposes…), commercialization competencies (ideas about how to promote the application, graphics, advice about Google Play's environment, how to take charge of the diffusion of the application…), and also feedback from early adopters.

The enrichment proceeds as one reply goes along. The longest replies might be subject to refocusing, be it on the initial poster's initiative or not (e.g. reply #40). Conversely, they might feature unforeseen contributions from the members (e.g. reply #41) which force the creator to reconsider their application's qualities. This last point reflects how this kind of interactions fits with the whirlwind model of innovation (Akrich, Callon, and Latour, 2002). It also points out the collective dimension of the development process, including its orientation, which makes it difficult to identify winners (Noordhoff & Kleijnen, 2011). Finally, threads progressively include more and more explicit requests to assess the use of the application. The replies then offer the opportunity to a collective construction of the uses, a construction which is almost joined to the application's development.

| Notice | The first post promotes […]. The message contains download and rating statistics on the Android operating system, pictures, and explicit request for improvement advice. The following excerpts are displayed in order of appearance in the thread. Posts in bold characters are from the first poster. |
|---|---|
| Post number | Contents of the post |
| #2 | Or you could just make it open source and then we could give you a hand for the coding and stuff. |
| #6 | **[…] no that's not how it's meant to be :P But if you have some time I'd like to have access to your transformations for accents :-° […]** |
| #9 | **I keep that in mind.** |
| #14 | you do need a beta-tester ;) |
| #17 | **I'm not forgetting about you :P I just had a PEBKAC issue (first I rewrote the coding by using the legacy so that it's cleaner)** |
| #25 | **OK I'm done with the more important ones ^^ If you notice coding problems when you try the app just let me know :P** |
| #26 | Well listen, we're hungry and waiting :D |
| #27 | **Well here it is [link] with no less than 7 sites :)**<br>**Have fun!** |
| #34 | Nice: you just have to add the finishing touches to the interface now ^^ |
| #35 | **Glad you like it, I'll get in touch with rob1 about the design tomorrow ;) I'm about to implement the optional setting to select which icons you want on the home page ;)** |
| #40 | OK I'm going to be the pain in the ass here: no. :D<br>---You need to bulletproof the coding (but that's for ev'body, even me :/) because the €, Ç and û…<br>--- You also need to hide the pages (top, flop…) because it's constantly reloading (the 3G icon is winkling :) )<br>- Wrap it up in a divine interface (but I just read rob1 was at the wheel again :D :D) "Good luck!" ©: cool |
| #41 | Could add something to favorite a sentence, that'd be awesome :D oh and while we're talking about it, to add a share button so we could send that by mail or on facebook would be like freaking good man. |
| #61 | **QQDroid is available on the Market :D [link] Don't forget to give the app a good grade guys ^^** |

| | |
|---|---|
| #63 | you should have added and icon to change the title. there's trouble with sharing, you have to add a link, or facebook doesn't work. but i guess that's your choice. |
| #80 | **Thanks rob1 :) (for creating the icon ;) )** |
| #89 | **No I'm not the one managing my market account, and the person who does couldn't send the version before tonight ;) But it's done now, the 1.1 version is online ;) Here's the QRCode again: […]** |
| #113 | Ah, that app is a delight, a hint of freshness in the middle of the shit bus. :P lol. |

**Table 2: Excerpts from thread #119**

### *4.3. Interessement as a crucial process*

The richness of the contributions is conditioned to the intrinsic interest of the subject for the contributors, both in quantity and quality terms. Nonetheless, it is clear that the initial poster tries to implement interessement techniques to boost it, be it consciously or not. Thus, they have to promote their application as well as they have to create the dynamic of contributions in order to allow customs to appear. Of course, the first post is an elected place to do so, contingent on the richness of the application's or issue's presentation. The presence or absence of links to websites (Google Play or alternative stores), of visual data (screenshots, videos…), of explicit and polite requests of involvement (notes, comments, ideas…), of the application's description (features, manual…), of new features or features to come announcement, all help the involvement of the contributors.

However, interessement does not only rely on the presentation. Interaction with the contributors is important too. Along with acknowledgment and replies to questions, the posts often include reports about the development process (on a technical or commercial point of view, e.g. download statistics). Equally, reformulations of the project are suggested, often through polls. The initial posters being markedly present reflects their own implication and their will to involve the others.

Reciprocally, other contributors' contributions are not limited to answering the initial poster. Some of them appropriate other roles as the discussion goes on. In thread #2, one of them quickly became the first fan of the application, the one who is present from the beginning, cheers up and rallies other contributors, offers regular reports and new ideas. By doing so, they provide enough gratification to the initial poster to maintain their involvement and mobilize new contributors. Another one plays the role of diffusing the application to the market after the initial poster asked for it, but they insist on the fact that their reputation should not be at stake. A last one offers to adapt the application to other forums, which completes the diffusion of the application. Contingent on their involvement, those contributors take part in the interessement process of the application being developed. The collective appropriation through the discussion thread leads to a renewed application.

## 5. Conclusion

Our research sheds light to the importance of co-construction in the development and launch of Android applications. Such operations are not limited to cooperation between developers, and also allow demand and offer to meet. Demand and offer mutually influence each other over the course of the contributions. If the required competencies for the development and the diffusion of the applications are various, the competencies related to the interessement of other contributors appear to be crucial. On a methodological point of view, this paper seems to confirm that threads of discussion are a relevant unit of analysis, even if they are often neglected at the expense of a holistic approach of communities. On a practical point of view, this research stresses that, in the manner of other online environments (Füller, Bartl, Ernst and Mühlbacher, 2006; Schau, Muñiz and Arnould, 2009), the success of such

platforms relies more on the implementation of interactions favorable to co-production than on the matter of winners' recruitment (Noordhoff & Kleijnen, 2011).

Necessarily, our exploration has limits. But these limits are also hints about how to go further. Thus, the analyzed sample could be broaden to the entire promotional section of the forum, and also to other Google Play-related forums, or even to one of its competitors. Then, we would be provided with enhanced external validity. It seems that Android and iPhone developers have divergent motivations (e.g. their relationship with the market; (Bergvall-Kåreborn et al., 2010), which could make the comparison between the dynamics of the co-production of applications in those two contexts an insightful extension of this research. Similarly, because it is complex to give a definition of an application's success, it would be interesting to apprehend such definition by the actors' point of view, especially through interviews. By exploring these, one could suggest a model of the relationship between the success of an application and the extent of the co-production process. This relationship is certainly difficult to submit to empirical analysis, but is crucial for this industry.

## References


Akrich, M. (1998). Les utilisateurs, acteurs de l'innovation. *Éducation permanente*, 134, 79–89.

Akrich, M., Callon, M., & Latour, B. (2002). The Key to Success in Innovation Part I: The Art of Interessement. *International Journal of Innovation Management*, 6, 187-206.

Akrich, M., Callon, M., Latour, B., & Monaghan, A. (2002). The Key to Success in Innovation Part II: The Art of Choosing Good Spokespersons. *International Journal of Innovation Management*, 6, 207-225.

Bergvall-Kåreborn, B., Björn, M., Chincholle, D., Hägglund, C., Larsson, S., & Nyberg, M. (2010). The Pioneers of Mobile Application Development – Profiles of Android and Iphone Developers. *Presented at the XXI ISPIM Conference*, Bilbao, Spain.

Clark, K.B., & Fujimoto, T. (1991). *Product development performance : strategy, organization, and management in the world auto industry*. Boston, Mass: Harvard Business School Press.

Feldman, L.P., & Page, A.L. (1984). Principles vs. practice in new product planning. *Journal of Product Innovation Management*, 1, 43–55.

Franke, N., & von Hippel, E.(2003). Satisfying heterogeneous user needs via innovation toolkits: the case of Apache security software. *Research Policy*, 32, 1199–1215.

Füller, J., Bartl, M., Ernst, H., & Mühlbacher, H. (2006). Community based innovation: How to integrate members of virtual communities into new product development. *Electronic Commerce Research*, 6, 57–73.

Von Hippel, E. (1986). Lead users: a source of novel product concepts. *Management science*, 791–805.

Kozinets, R.V., Hemetsberger, A., & Schau, H.J. (2008). The Wisdom of Consumer Crowds: Collective Innovation in the Age of Networked Marketing. *Journal of Macromarketing*, 28, 339–354.

Noordhoff, C., & Kleijnen, M. (2011). Consumer Involvement In Online Innovation Networks. *Presented at the 40th EMAC* Conference, Ljubljana.

Schau, H.J., Muñiz, A.M., & Arnould, E.J. (2009). How Brand Community Practices Create Value. *Journal of Marketing*, 73, 30–51.

Vargo, S.L., & Lusch, R.F. (2004). Evolving to a New Dominant Logic for Marketing. *Journal of Marketing*, 68, 1–17.