The Design Towards a Collaborative Subscription Service: The Case of the Finnish Newspaper Industry

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Abstract. The newspaper industry is challenged with its business models. To stabilize revenues, publishers opted for digital subscriptions for generating additional revenue streams. However, digital subscriptions showcase limited success. News aggregator platforms may promise publishers a pool of paying readers. But platform fees and the loss of customer relationships enact barriers among publishers to join. This study proposes a software prototype based on design science research to address the aforementioned shortcomings by deriving design principles for a collaborative subscription service. Building on the strategic alliance, digital platform and business model literature, this research aims to identify design principles that create conducive conditions towards a collaborative subscription service among newspaper publishers.

Keywords: Digital platform · Business model · Collaboration · Prototype · Design science · Newspaper industry

1 Introduction

Newspapers are important institutional artifacts in societies as they inform and create public discourse to hold stakeholders accountable. To fulfill their tasks in the digital age, publishers expanded their distribution channels to the digital realm to serve current and future readers. In so doing, many publishers, however, are challenged to identify sustainable business models. The traditional print business continues to be a reliable revenue generator, though, many publishers exhibit early signs of decline in their growth trajectory. Thanks to the availability of ubiquitous mobile computing, online channels gained importance in monetizing news content due to revenues from online advertisements. The importance was also reflected by the publisher's investments into digital business units to leverage on these growth opportunities.

That being said, revenues from online channels have become unpredictable in the last years. With the rise of ad blockers and competition with global platforms (e.g., Facebook, Google), newspaper publishers started to compete for the same online advertisement

spendings. To become more independent from online advertisement, publishers chose to adopt the traditional print business model in the form of digital subscriptions. Although digital subscriptions present a promising avenue for stable revenues, and resourceful publishers with broad global coverage have indeed benefited from it, smaller publishers continue to be challenged in increasing their subscriber base. To illustrate, publishers have difficulties in convincing readers to pay for digital subscriptions in the first place, as users have a limited budget for media, while similar content is freely available. Secondly, even if readers start to pay for digital subscriptions, the churn rate, which is the rate of cancelation, is considerably high. Based on these observations, existing digital newspaper subscription services portray a value mismatch between readers and publishers. Thus, presenting an avenue for improvement.

Global platform organizations (e.g., Apple) recognized the dilemma in the newspaper industry and started to offer news aggregator platforms (Apple News+), which pool content by different publishers into one service. Most publishers, however, are skeptical of this kind of services due to fears of being a commoditized and losing control over content distribution and monetization. If we consider the prevailing trend of aggregated services in different media industries, such as music (e.g., Spotify), books (e.g., Amazon Kindle) movies (e.g., Netflix), and now recently newspapers (e.g., Apple+), the question arises how to design a newspaper subscription service that addresses the concerns among publishers that reflects the needs to join a news aggregator service. This line of thinking is relevant to explore to identify sustainable subscription business models. Accordingly, this research in progress is proposing a solution (i.e., software prototype) that explores to identify business and technology aspects that facilitates positive conditions for creating a collaborative newspaper subscription service opposed to monopolistic ones (e.g., Apple News +). As such, we propose the following research question: *What are the design principles of a collaborative subscription service for the online newspaper industry?*

To answer the research question, we developed a software prototype based on the strategic alliance, digital platform, business model theories, and aiming to conduct a design science study to derive design principles that exhibit positive conditions for establishing collaborative subscription services [1–3]. These interrelated research streams are considered to be suitable to identify positive conditions for collaboration from a strategic, technical and commercial viewpoint, as well as develop test scenarios to evaluate the effectiveness of different design principles. This study contributes to the aforementioned research streams, as well as presenting a response to a call for more design science studies related to digital platforms [4]. From a practitioner viewpoint, this study could have major implications for a Nordic newspaper industry in providing insights and a strategic template for the creation of a collaborative subscription service.

2 Theoretical Background

Strategic Alliance. Organizations often team up to pool their complementary resources to achieve synergy effects such as co-creating competitive products and services. These types of organizational arrangements are synonymous with joint ventures, strategic partnerships, strategic alliances or coopetitions [1, 5], when rival organizations combine their resources to achieve shared economic benefits (e.g., efficiency) or strategic goals

(e.g., market entry). Strategic alliances are difficult to create as they are subject to complex managerial processes that require compromises. This is especially a challenging endeavor for once vertically integrated organizations like newspaper publishers, which are used to control the entire value creation and capture process [5]. Likewise, the ability to join an alliance is subject to extensive scrutiny among existing alliance members, as certain resources offered by the alliance seeker could be perceived to be tradeable, potentially undermining the negotiation position [1, 5]. If we consider competitiveness in digital industries (e.g., social media, streaming services), organizations are considered to be competitive, if they possess high market reach and are able to create network effects in the form of user growth or exclusive partnerships to co-create services (e.g., attractive selection of media content) [6]. Similarly, if digital organizations lack valuable industry-specific resources (e.g., market reach, content), literature suggests the formation of digital alliances to compensate shortcomings [1]. As more digital industries embrace the logic of platform markets, strategic alliances can be considered as inter-organizational digital platforms.

Inter-organizational Digital Platforms. Digital platforms are business network promoting technology architectures [3], which orchestrate services and technology components to co-create modularized services with platform stakeholders. A common theme across platform studies is the governance and control of such platforms [7]. Like in strategic alliances, owners of digital platforms face challenges to balance the needs of different stakeholders to ensure platform attractiveness and competitiveness, while avoiding fragmentation which may cause deteriorating consequences for the entire platform [8]. Considering strategic alliances through the platform lens, inter-organizational digital platforms conduct their platform operations in a collaborative fashion to achieve conjoint benefits such as network effects (e.g., user growth). At the same time, members of collaborative digital platform face challenges. Similar to the notion of *too many chefs in the kitchen*, a shared digital platform comes along with reduced control or increased coordination costs, potentially causing drawbacks like slowing down the performance individual members and hence, the overall performance of a collaborative digital platform. As such, joining an inter-organizational digital platform requires the consideration of risks and opportunities. One way to weigh risks and opportunities for a business endeavor is through the lens of business models.

Digital Business Models. In general, digital business models can be understood through four conceptual elements: 1) value proposition (e.g., service offer), (2) value capture (e.g., pricing), (3) value architecture (e.g., platform), and lastly (4) value network (e.g., strategic alliance) [2].

Successful digital business models require the alignment of value propositions, value capture, value architecture and value network to be effective in the end. Therefore, we deem strategic alliances, digital platforms and digital business models as suitable theoretical foundations, and analytical lenses (see Fig. 1) to enquire and derive design principles for a collaborative subscription service in the newspaper industry. If we contextualize the presented literature with the logic of an online newspaper subscription services (see Table 1), the digital business model concept serves as our guiding design lens to identify avenues for innovations, determining evaluation criteria, and hence, deriving design principles for newspaper subscriptions business models.
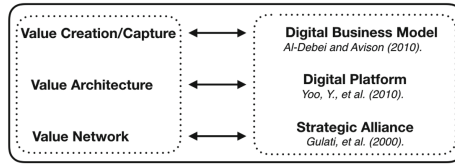
Fig. 1. Design analytical lens

Table 1. Business model dimensions of a digital subscription service

Dimension	Newspaper subscription	Value principles
Value creation	Online news articles	Valued content
Value capture	Payment plan	Attractive pricing
Value architecture	Digital platform	An effective platform architecture for delivering valued content
Value network	Publishers	A select network of strategic alliance members

3   Methodology

Our research design needs to reflect close involvement with the practice and delivery of a particular solution. Hence, we follow a design science research methodology (DSRM) that is well developed and has a decades-old tradition in Information Systems research (see Fig. 2). DSRM [9] builds on these DSR process models and suggests a way to conduct design science research in information systems. It is comprised of six phases: (1) identify the problem and motivation; (2) define the objectives; (3) design; (4) demonstrate; (5) evaluate; and (6) communicate [9].
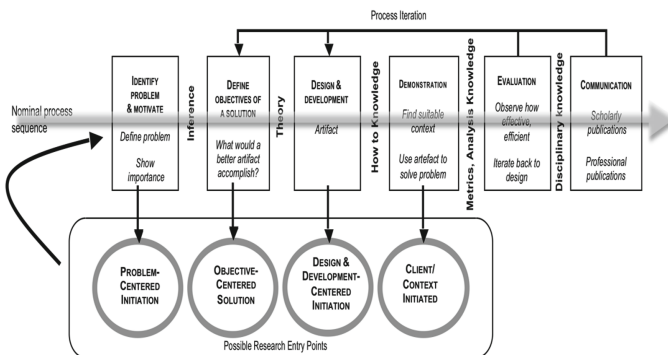

Fig. 2. *DSR Methodology*

The DSRM starts with the identification of the research problem(s) and the motivation for the research. Based on the evidence, reasoning, and inference, the process continues

towards defining the objectives of a solution to solve the research problem. This process should be based upon prior knowledge or literature in the given field of research. In so doing, we utilize developed artifact (software prototype) and business model dimensions to identify areas for improvement to develop quantitative and qualitative test scenarios (see Fig. 3).

Quantitative Study: Circa 200–250 Finnish users will be invited to test the software prototype with content provided by newspaper publishers, which will assist us to collect empirical data on their 1) news consumption behavior and 2) selection of payment plans. Before testing, we will conduct a pre-study survey to investigate participants' current news media consumption patterns and their volume. In the end, the quantitative study will allow us to test different user scenarios and measure the performance of different payment plans that informs us of the second study.

Qualitative Study: The insights gathered from the quantitative study will be utilized to prompt newspaper stakeholders during a workshop. During the workshop, representatives from leading Nordic newspaper publishers (e.g., chief digital officers, business development mangers) and members from the media industry will be confronted with results from the first study and to initiate and facilitate interactive discussions. The discussions will be structured and moderated towards identifying positive conditions related to value architectures (e.g., the technical feasibility and governance of a shared architecture). Lastly, the workshop aims to identify positive conditions towards value network creation in the pre-stage (i.e., founding members) and during operation (i.e., new members).
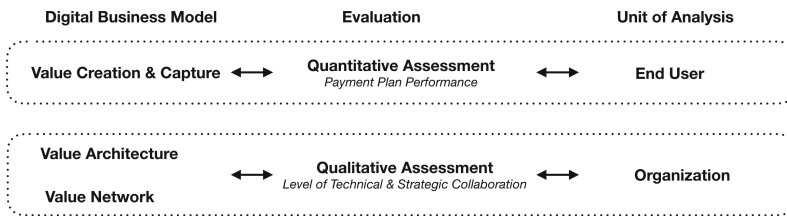

Fig. 3. Evaluation criteria

4 Prototype: Collaborative Subscription Service

Front-End Prototype (End User Facing). The first prototype is a web-based interface through which users register and access a pool of online articles based on different topics, popularity or newness. To begin with, users select a suitable payment plan to their liking or budget to access content until the end of their subscription period. Alternatively, the service supports micropayments and packages for accessing paywalled online content without a monthly digital subscription. Overall, the end-user facing prototype allows us test different payment plans to evaluate their performance (see Fig. 4).
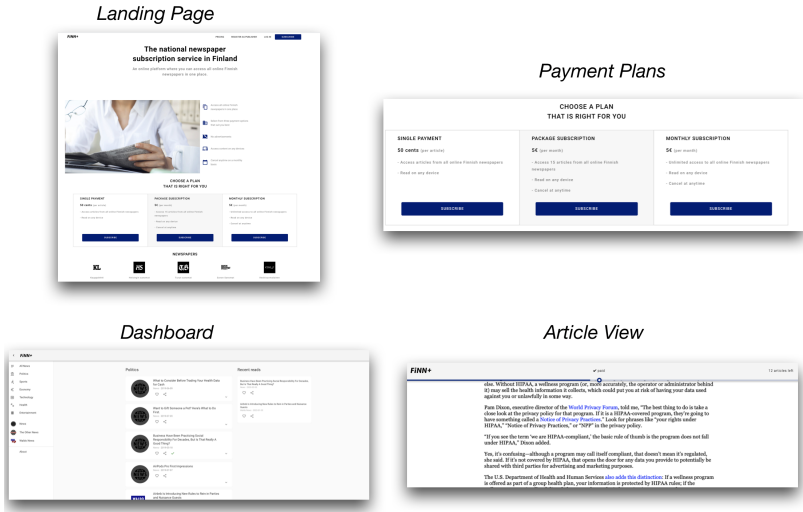
Fig. 4. Software prototype

Back-End Prototype (Publisher Facing). The second prototype presents a database to track and record user purchases, spending and access to different newspaper articles. In so doing, the proposed system track browser activities to bill the user based on the selected payment plan. In this sense, the browser serves as a bridge between publishers and the proposed subscription service. Specifically, news articles are not hosted on the artifact itself, but the artifact sends paying readers to publishers' websites to access their content. This is different compared to existing commercial solutions (e.g., Apple News +), where content is centrally stored and accessed. At the end of the month, the content providers' monthly balance will be calculated based on various parameters (e.g., attention, time, read lines, visits) and generated revenues.

5   Conclusion

This research in progress has the goal to derive and test design principles for collaborative subscription service for the online newspaper industry. In so doing, we conceptualized and developed a software prototype that is theoretically rooted in the strategic alliance, digital platform, and business model literature [1–3]. Based on these theoretical foundations, we use the business model as our guiding design lens to derive test and evaluation scenarios for our proposed prototype. The next steps of this on-going study are tests with Amazon Turk users to identify areas of improvement in preparation for the quantitative study with Finnish readers, which allows us to collect data on usage and payment plan performance. Subsequently, the insights gained from the first study will provide insights for the second qualitative study, which involves publishers to identify positive conditions related to technical and strategic collaborations. From a practitioner viewpoint, this study could be a major contribution to Nordic newspaper industries in providing a strategic template towards collaborative subscription services.

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