

Print ISSN: 0120-4645 / E-ISSN: 2256-5078 / Short name: cuad.adm. / Pages: 52-77
Faculty of Administration Sciences / Universidad del Valle / Cali - Colombia

SME Platforms as Business Models: A User-Centric Activity-System Approach

Plataformas para PYMEs como Modelos de Negocio: un Enfoque de Sistema de Actividades Centrado en el Usuario

Les plates-formes pour les PME en tant que modèles d'affaires: une approche par système d'activités centrées sur l'utilisateur

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Article of Scientific and Technological Research,
PUBLINDEX-COLCIENCIAS classification
Submitted: 03/12/2018
Reviewed: 23/11/2018
Accepted: 06/05/2019

Core topic: Administration and Organizations, Marketing
JEL classification: M15, M31
DOI: <https://doi.org/10.25100/cdea.v35i64.7248>

Abstract

The dramatic rise of social media platforms for individuals has attracted a lot of attention in the academic and business literature. Web 2.0 and social media technology has also been used to develop platforms for entrepreneurs and Small and Medium sized Enterprises (SMEs), which offer relevant information content and networking opportunities. Although there has been considerable growth and use in SME platforms there is a dearth of research into their strategy and operations. We take Zott and Amit's activity-system approach, to analyse a theoretical sample of four leading UK SME platforms and develop causal maps of their business models. The theoretical contribution is to propose a general framework that features the dynamic nature of business models by describing and explaining the complex interactions and influences between the business model elements of business strategy, value proposition, end-user and Web 2.0. The paper also makes an empirical contribution by testing the activity-system approach and demonstrating its utility and validity in a new organisational context. Results show that user acquisition and retention strategies (part of the business strategy) enable both the platform's value proposition and the revenue model, where partnerships and Web 2.0 technology play a key role in most cases. This has important implications for Marketing managers and for strategy theorists.

Keywords: Business model, SME, Activity-system, Web 2.0, Social media.

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Resumen

El espectacular aumento de las plataformas de medios sociales para individuos ha atraído mucha atención en la literatura académica y de negocios. La tecnología Web 2.0 y las redes sociales también se han utilizado para desarrollar plataformas para emprendedores y pequeñas y medianas empresas (PYMES), que ofrecen contenido con información relevante y oportunidades de networking. Aunque ha habido un considerable crecimiento y uso en las plataformas para PYMES, hay una escasez de investigación sobre su estrategia y operaciones. Tomamos el enfoque de sistema de actividades de Zott y Amit, para analizar una muestra teórica de las cuatro plataformas para PYMES líderes del Reino Unido y desarrollar mapas causales de sus modelos de negocios. La contribución teórica consiste en proponer un marco general que muestre la naturaleza dinámica de los modelos de negocio al describir y explicar las complejas interacciones entre los elementos del modelo de negocio como la estrategia de negocios, la propuesta de valor, el usuario final y la Web 2.0. El documento también realiza una contribución empírica al probar el enfoque del sistema de actividades y demostrar su utilidad y validez en un nuevo contexto organizativo. Los resultados muestran que las estrategias de adquisición y retención de usuarios (parte de la estrategia empresarial) facilitan la propuesta de valor y el modelo de ingresos, donde las asociaciones y la tecnología Web 2.0 desempeñan un papel clave en la mayoría de los casos. Esto tiene implicaciones importantes para los gerentes de Mercadotecnia y para los teóricos de la estrategia.

Palabras clave: Modelo de negocio, PYME, Sistema de actividades, Web 2.0, redes sociales.

Résumé

L'augmentation spectaculaire des plateformes de médias sociaux pour les individus a attiré beaucoup d'attention dans la documentation académique et commerciale. La technologie Web 2.0 et les réseaux sociaux ont également été utilisés pour développer des plates-formes pour les entrepreneurs et les petites et moyennes entreprises (PME), offrant un contenu avec des informations pertinentes et des possibilités de mise en réseau. Bien que les plates-formes de PME aient connu une croissance et une utilisation considérables, la recherche sur leur stratégie et leur fonctionnement est rare. Nous avons adopté l'approche systémique des activités de Zott et Amit pour analyser un échantillon théorique des quatre principales plates-formes de PME britanniques et développer des cartes causales de leurs modèles d'affaires. La contribution théorique consiste à proposer un cadre général qui montre la nature dynamique des modèles d'affaires en décrivant et en expliquant les interactions complexes entre les éléments du modèle d'affaires tels que la stratégie d'affaires, la proposition de valeur, l'utilisateur final et la Web 2.0. Le document apporte également une contribution empirique en testant l'approche du système d'activités et en démontrant son utilité et sa

validité dans un nouveau contexte organisationnel. Les résultats montrent que les stratégies d'acquisition et de fidélisation des utilisateurs (qui font partie de la stratégie commerciale) facilitent la proposition de valeur et le modèle de revenus, où les partenariats et la technologie Web 2.0 jouent un rôle clé dans la plupart des cas. Cela a des implications importantes pour les responsables marketing et les théoriciens de la stratégie.

Mots-clés: Modèle d'entreprise, PME, Système d'activités, Web 2.0, Réseaux sociaux.

1. Introduction

Zott and Amit (2010) describe a business model as a “system of interdependent activities that transcends the focal firm and spans its boundaries”. The business model concept is important because it helps us to analyse and explain the endogenous business logic and functioning of an organisation in the context of its relationships with economic partners (Zott and Amit, 2010; Magretta, 2002). Business models are especially good at modelling technology. Some relevant examples of how the business model concept has been successfully applied to technology-focused organisations are the work of Chesbrough (2010), Baden-Fuller and Haefliger (2013), Mezger (2014) and Aagaard and Lindgren (2015). Despite the utility of the concept, it has been argued that most literature on business models still lacks a structured and rigorous research, in particular regarding theory-building and empirical research beyond single-case studies (Demil, Lecocq, Ricart, and Zott, 2015; Hossain, 2017). In this paper we will apply the business model theory in several, related case studies that will test the utility of the activity-system approach and develop a generic, dynamic business model for social media platforms designed for use by small businesses and entrepreneurs. The objective of the paper is therefore, to understand the dynamics of SME platforms' business models.

Business models have been defined as systems Afuah and Tucci, 2002 and the activity-system view in particular has been widely proposed in the literature (e.g. Amit and Zott (2012) and Bouncken and Fredrich (2016). This view sees the business model as a set of activities that work together as a mechanism to create a value proposition and generate revenue. This approach is suitable to study changes in the business model and

to study short periods of time (McGrath, 2010). It is also more straightforward to apply than the resource and capability view of the firm, and still yields similar insights into the mechanisms of the business model (McGrath, 2010). For example, a change in resources or capabilities is more difficult to detect and measure than a change or initiation of an activity. Despite these advantages, there are relatively few empirical studies that follow the activity-system approach.

Due to their technological nature, SME platforms operate in a fast moving environment, which makes activity-system theory a suitable approach to study their business models. SME platforms can be defined as:

“The use of Web 2.0 technologies and social media to support SMEs with relevant content and enable them in the formation, development and management of commercial and social relationships between each other, with their economic partners and with their customers for the purposes of information sharing, knowledge creation, networking and sales”.

There is evidence that shows that SME platforms are widely used (Richardson and Gosnay, 2010; Jones, 2013). However, there are scarce published studies on them. Although there is vast literature on the use of Web 2.0 technology by SMEs (Michaelides, Tickle, and Morton, 2010; Kim, Lee, and Lee 2011), they focus on the benefits SMEs derive from the platform and not on the platform business model itself. Parker, Van Alstyne, and Jiang, (2016) define platforms as a new business model that uses technology to connect people, organizations and resources in an interactive ecosystem in which amazing amounts of value can be created and exchanged. More recently, Gatautis (2017) studies how major social media platforms contribute to companies' business models innovations and states that platform adoption by European SMEs should lead to new platform based business models. As technology advances and more platforms emerge, it becomes more relevant to study current SME platforms and their business models.

An example of SME platform in the UK is smallbusiness.co.uk, which offers extensive information content on a range of business

topics of importance to small businesses, including legal, marketing and financial advice in the form of blogs. Smallbusiness.co.uk is designed to help entrepreneurs and SMEs manage and grow their businesses. Other similar websites, also provide networking technology, however they are very different to consumer focused social media platforms such as Facebook and Twitter, in terms of its purpose, which is to support and facilitate the management and growth of small businesses. They are designed specifically for use by small businesses and entrepreneurs, and this is reflected in the information content and networking opportunities with other entrepreneurs, that the site offers. Of course, SMEs already use consumer social media platforms such as Facebook and Twitter to advertise themselves to new and existing customers. But Facebook does not offer information and advice to SMEs and it does not have a single, large community of such organisations that share information with each other. SMEs also use LinkedIn, which offers networking opportunities with other entrepreneurs and also with potential business clients. However, LinkedIn is focused on promoting the careers of individual managers, who often work in large, international companies, and does not cater for the specific requirements of small businesses.

SMEs share similar challenges: intense competition in existing markets and the rapid development of new markets; increasing customer expectations; and complex funding, marketing and legal issues, lack of business strategy and lack of expertise (Mukumba, 2014; Agwu and Emeti, 2014). These SME platforms are not as mature as consumer social media platforms and are in the rapid growth phase of their development, which makes them an interesting area of study. SME platforms are also an interesting domain to study business models because these platforms are constantly innovating in terms of information content, products and services, new technology and partnerships to grow their user base.

Recent studies on business models call for more emphasis on the customer and argue that most research in this area has focused on the internal organization, e.g. Demil *et al.* (2015), Osterwalder, Pigneur, Bernarda,

and Smith (2015). Given that business models transcend the focal firm and span its boundaries (Zott and Amit, 2010), there is clearly an opportunity here to pay much more attention to the role and activity of the customer in the business model. Examples of business models that include customers include co-creation (Normann, 2001), open innovation (Chesbrough, 2010) and crowdsourcing (Kazman and Chen, 2009). Many new business models rely on network effects because the more users there are, the more value is generated for individual users, whether this is in the form of rich information content, networking opportunities (Spiegel, Abbassi, Zylka, Schlagwein, Fischbach, and Schoder, 2015) or prospects for selling. In SME platforms, which are the focus of this study, the role of the SME user is central to the logic and functioning of the business model of the platform, and also plays a crucial role in the generation of value to users and revenue to the platform owner.

This paper is focused on improving our understanding of the business models of a new and exciting class of social media platforms, those platforms that are designed specifically for SMEs. The principal research question is stated as: How can the business model concept be applied to the analysis and explanation of SME platforms? Case studies of four leading SME platforms in the UK are presented and analysed to uncover common characteristics and features in the business model logic and operation. A feature of the analysis is the use of causal maps to uncover the dynamic relationships between the entities of the business model, and this helps us develop a generic business model framework. In the next section a review of the relevant literature is used to develop a research framework.

2. Theoretical background

2.1. Business Models

Business models have received a lot of attention in the strategic management literature since the year 2000 and value creation has been central to their definition. Examples include the studies by Chesbrough and Rosenbloom (2002) and Zott and Amit

(2017). Osterwalder and Pigneur (2010) define the business model as the rationale of how an organization creates, delivers, and captures value. While value creation represents what is offered to customers, value capture is concerned with how an organization captures part of that value and translates it into profit (Teece, 2010).

With the advent of Web 2.0 technology it is expected that new types of business models will develop because the social media technology makes it possible to share information and generate value in new and innovative ways. From a social media platform owner perspective, the scale of such platforms is important because scale determines the attractiveness of the website to advertisers and it also influences the value of networking and sales opportunities with other users. Network effects play a crucial role in the growth of such websites and this characteristic of social media platforms has led to a winner-takes-all outcome in many situations. Such effects are related to an increase in a product's economic utility due to the increase on the number of network users (direct effect) and may increase the value of complementary products (indirect effect) (Shapiro and Varian, 1999; Den Hartigh and Langerak, 2002). Network effects are therefore an important factor in social media platforms that utilise Web 2.0 technology and are an important mechanism of change. This is in line with previous research where technology is identified as an important element to explain business model dynamics (Mason and Spring, 2011); Kranz, Hanelt, and Kolbe. 2016). It is therefore necessary to capture the use of Web 2.0 in detail and also to model the dynamic nature of social media platforms in order to understand their business logic and dynamics.

Although studies on business models have recognized the relevance of Web 2.0 technology, there are few examples of business model frameworks that explicitly consider Web 2.0 as a theoretical construct. Examples are the work of Chen (2009), which refers to the capabilities of Web 2.0 and the possibility of self-improving systems to study the web information services industry and Wirtz, Schilke, and Ullrich, (2010) who develop a framework to illustrate the effect of Web 2.0 on business model types. The use

of Web 2.0 technology as a construct leads to the generation of a system of actors and activities that help to create and capture value based on technology.

2.2. The Business Model as Activity-System

Early research identified that 'key activities' are an important aspect of business models (Afuah and Tucci, 2002); Osterwalder and Pigneur, 2010). Demil and Lecocq (2010) define the business model as the articulation between different areas of a firm's activity designed to produce a proposition of value to customers. Afuah and Tucci (2002) and Baden-Fuller and Haefliger (2013) make an important contribution by defining the business model as a 'value system'. The way to create and capture that value, is explained by Zott and Amit's activity-system, which defines the business model as a set of activities, processes or functionalities, which encourages the firm in systemic and holistic thinking. Under this approach, the business model is defined as a flow of well-coordinated activities to create and capture value. This leads to an activity-system design with the following elements: content (activities), structure (links and sequences) and governance (actors). In addition to content, Zott and Amit (2010) also proposed the idea of design themes, which describe the characteristics of a business model: novelty, lock-in, complementarities and efficiency. Despite the acceptance of the activity-system view of business models by researchers there is a dearth of published empirical research in this area that applies the concept. A summary of the business models as activity-systems literature is shown in Table 1.

These papers are important because they recognize the value of activities for the business model and a review of the content reveals a consensus that the activity-system view is a valuable way to study business models. However, almost all of these studies are based on large company examples and the limited number of studies shows that here is an opportunity to conduct further empirical studies to strengthen the activity-system perspective.

The activity-system approach is clearly a suitable framework to study SME platforms

because technology is a fast-moving industry where changes in the platform are expected to affect the business model and vice versa. The activity-system method also makes it straightforward to operationalize the theoretical constructs and also allows the exploration of inter-relationships between the elements. The work of Casadesus-Masanell and Ricart (2010) is of particular interest here because it uses a case study approach and develops business model diagrams to capture the inter-dependency between elements of the business model and the evolution of such models. This approach is useful as the diagrams used clearly represent the feedback loops between variables and consequences. The activity-system approach also overcomes the limitations of the resource based view as the latter is not flexible enough to capture short-term changes and is difficult to apply in practice because of the practical issues concerning the accurate measurement of a firm's resources (McGrath, 2010).

2.3. Theoretical Framework

Based on the literature, a theoretical model is proposed that is comprised of a set of clearly defined theoretical constructs. The theoretical logic and origin of each construct is described in Table 2. The model is applied to a range of companies using an activity-system approach. From Table 2 it is seen that researchers though using different terminology have suggested similar elements previously.

The relevance of the user in the framework is explained in more detail in Figure 1.

The four elements of our business model, value proposition, Web 2.0 sophistication, business strategy and user, are inter-related with each other.

Each of the constructs is defined in the context of its application to an SME platform, whose main purpose is to support and encourage small businesses and entrepreneurs through information sharing and networking opportunities within the SME community and with economic partners such as banks, professional services, industry and government bodies. The value proposition construct is therefore defined as two main offerings: (1) information

Table 1. Research on business models as activity-systems

Author	Research question	Key findings	Industry focus	Methodology
Seddon, Lewis, Freeman, and Shanks . (2004)	Meaning of business model and strategy	Business models are more inward looking than strategy, focusing more on the activity-system side of how a firm creates economic value, whereas strategy is more outward looking, focusing more on competitive positioning.	Publisher, School supplies	Study of literature to define differences. Use of examples from literature
Zott and Amit (2010)	Give managers, entrepreneurs and researchers a 'language,' concrete tools and a tight framework for business model design; Emphasize the importance of system-level design.	Parameters that activity systems design: Elements - content, structure and governance - that describe the architecture of an activity system; and Themes - novelty, lock-in, complementarities and efficiency - that describe the sources of the activity system's value creation.	Outsourcing, Technology, Lending	Study of literature and industry examples to develop tools and framework
Casadesus-Masanell and Ricart (2010)	Separate and relate the concepts of strategy, business model and tactics	In simple competitive situations there is a one-to-one mapping between strategy and business model; The concepts of strategy and business model differ when there are important contingencies on which a well-designed strategy must be based.	Newspaper, Education, Airline, Discount retailer, Mobile network operator	Study of literature and industry examples to develop framework and 2 case studies
Itami and Nishino (2010)	How the role of the business system (or activity set) as a firm's learning system is central to success.	The profit model earns revenues for the short term, the business system learns information for the longer term.	Technology, Car	Industry examples to develop framework
Gambardella and McGahan (2010)	Business model innovation of general-purpose technologies as a novel alternative to applied, specialized, commercially mature technologies.	The innovation of this business model will have unpredictable, but inevitable, consequences for industry structure and organizational capabilities, as well as for the content and context for the upstream science.	Universities, Biotech, Nanotechnology	Industry examples
Amit and Zott (2012)	What do executives need to know about business model innovation?	Proposal of three basic forms of business model innovation: adding new activities to an existing business model, organizing activities in novel ways, and changing some parties that perform that perform the activities.	Diverse industries	Survey of 59 e-business companies. Regression of variables of 190 entrepreneurial public companies between 1996 and 2000.
Bouncken and Fredrich (2016)	Which circumstances allow best capture value from business model innovation?	Business model innovation represents a new activity-system that includes innovation, value creation, and the value capture structure of a firm and its alliances. It has a positive effect on return on equity (ROE), even stronger for firms with greater alliance experience.	High-tech industry	Survey to 195 firms with major business operations in Germany
Daidj, and Egert (2018)	Discuss the evolution in business models of one key player (Netflix) in the French online streaming video services market and analyze the impact of cooperative practices on the model.	Business models are complex strategic relationships and activities that created value for customers and generated revenue and costs.	Media industry	Single case study based on secondary data

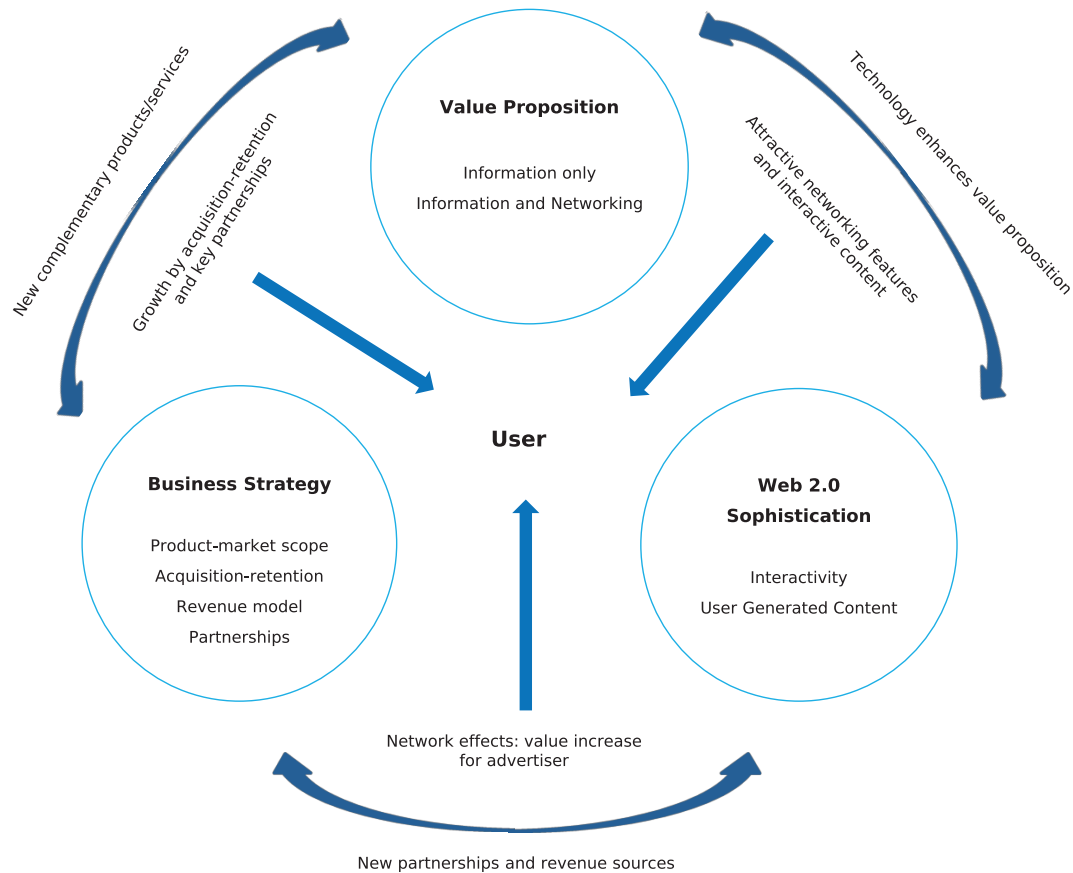
Source: Author's own elaboration.

Table 2. Business model framework elements

Construct	Definition	Literature
Value Proposition	<p>Purpose of the SME Platform in terms of how SMEs will use the system. Users want:</p> <ul style="list-style-type: none"> • Information: repositories and databases (Wirtz <i>et al.</i>, 2010) • Networking: opportunities to share ideas and potentially create new knowledge (Inkpen and Tsang, 2005; Kim, <i>et al.</i>, 2011; Harris, Rae, and Misner, 2012) 	(Osterwalder <i>et al.</i> , 2015) Also defined as 'product or service' (Dubosson-Torbay, Osterwalder, and Pigneur, 2002); 'value offering' (Gordijn and Akkermans 2001); (Afuah and Tucci 2000) or 'knowledge and networks' (Normann 2001).
Web 2.0 Sophistication	<p>Level of advanced or complex use of Web 2.0 technology in the website. It refers to:</p> <ul style="list-style-type: none"> • Interactivity: presence of clickable images, modifiable content, presence of interactive tools (e.g. polls, web chats), presence of Web 2.0 technologies (blog, forum, social bookmarks, media sharing, social networking and ratings); number of Web 2.0 features); presence in social media applications and mobile design. • User generated content: presence of UGC (content made publicly available through Internet created outside of professional practices) and low or high number of comments in blog/forum. 	(Ha and James 1998); (Barnes, Clear, Dyerson, Harindranath, Harris, and Rae, 2012); (Harris <i>et al.</i> , 2012); (Meske and Stieglitz 2013); (Reyneke, Pitt, and Berthon, 2011); (Michaelidou, Siamagka, and Christodoulides, 2011) (Vickery and Wunsch-Vincent 2007)
Business Strategy	<p>Defined as the business mission and basis for differentiation (Hammel, 1989). It means performing different activities from rivals' or performing similar activities in different ways (Porter, 1996). It includes: <i>Product-market scope:</i></p> <ul style="list-style-type: none"> • Focused: addressed to a specific industry or Broad: directed to any SME. • Revenue models: advertising/sponsorship, subscription, sales, transaction fee and affiliate. • User acquisition and retention: activities to develop and increase relationships with customers and provide customized communication. • Partnerships: understood as associations with key organisations, in order to derive benefits for both parties. 	(Hamel and Prahalad 1989) (Rumelt and Teece 1994); (Miles, Snow, Meyer, and & Coleman, 1978); Defined as 'target market' (Pateli and Giaglis 2004) or 'customer segment' (Osterwalder and Pigneur, 2002). (Laudon and Traver 2013); (Timmers 1998); (Rappa 2000); (Osterwalder and Pigneur 2002). (Rust and Lemon 2001). Usually referred instead to 'relationship' in (Weill and Vitale 2001); (Applegate 2001); (Osterwalder and Pigneur 2002); (Linder and Cantrell 2001). Defined as alliances as part of a value chain or net (Pateli and Giaglis 2004); (Turban, McLean, and Wetherbe, 2002); or a 'value architecture' (i.e. partners and suppliers within the value chain and value network) (Moingeon and Lehmann-Ortega 2010); (Shafer <i>et al.</i> , 2005); (Dubosson-Torbay <i>et al.</i> , 2002). (Osterwalder and Pigneur 2010).
User	To whom the value proposition is directed to. It is the consumer of the product or service.	Usually referred as 'customer' (Weill and Vitale 2001; Afuah and Tucci 2000; Osterwalder and Pigneur 2002; Hedman and Kalling 2003 or 'consumer' Morris <i>et al.</i> , 2005; Chesbrough and Rosenbloom 2002; Teece 2010)

Source: Author's own elaboration.

Figure 1. Research framework



Source: Author's own elaboration.

only and (2) information and networking. Web 2.0 technology is the enabler of such proposition in terms of managing the information, interactivity between the user and the website and enabling networking between users through the use of social media. A crucial feature of such websites is the creation and dissemination of user-generated content, e.g. through discussion forums. This is important because it contributes to the information component of the value proposition, and it contributes to the networking opportunities as users with similar interests can communicate directly with each other and with like-minded businesses. The business strategy construct is a synthesis of the most important elements from previous research: product-market scope (Hamel and Prahalad, 1989; Rumelt

and Teece, 1994), customer acquisition (Weill and Vitale, 2001; Linder and Cantrell, 2001), revenue model (Timmers, 1998; Osterwalder and Pigneur, 2002) and partnerships (Pateli and Giaglis, 2004; Shafer, Smith, and Linder, 2005). This is in line with the theoretical view in the literature that business model theory provides a suitable framework for describing the dynamic nature of strategy execution by capturing the interplay between the elements of the business model (Casadesus-Masanell and Ricart, 2010; Teece, 2010). Most frameworks refer to the crucial importance of the customer and the commercial relationship with consumers (e.g. Chesbrough and Rosenbloom, 2002; Teece, 2010). In an activity-system approach, we are more interested in the activities that will lead to a consequence and therefore our

focus is on the actual strategies to acquire and retain customers rather than on the customer relationship itself.

In our framework, the interrelations between the elements all have the user in common and this reflects the central role that the SME business user plays in the business model. All social media platforms require scale in order to generate sufficient revenue, either from advertising or from the sale of products and services. Growth of the customer base is therefore an important objective to ensure the success of the platform. The relationships between the elements illustrate the potential complexity of the model and also highlight some important features. For example, the business strategy of growth leads to new complementary products and services, and therefore changes the value proposition. Investments in Web 2.0 technology improve the networking features and interactive content and therefore enhance the value proposition. An increase in the user base leads to direct network effects because more active users increase the information content and also enhance the networking opportunities. There are also indirect effects because as more users are attracted to the platform, new service providers such as professional services, industry bodies and banks start to become involved and offer complementary products (Shapiro and Varian, 1999), which in turn attract further SME users. The periphery shows the new activities the firm engages in as a result of that growth, which again aim to increase the user base. A larger user base also makes the platform relevant to advertisers (i.e. demand side network effects), which has a direct effect on the revenue model.

Based on the research framework, this study makes the following propositions:

P1: User acquisition and retention strategies enable the value proposition. Acquisition and retention strategies (such as user registration to the newsletter for database marketing) facilitate the value propositions. Users generate content (information) and make possible the networking activity. There is a creation of informal user networks facilitating the flow of ideas and knowledge (Constantinides and Fountain, 2008).

P2: Web 2.0 technology enables the value proposition. By allowing the creation and exchange of user generated content (Kaplan and Haenlein, 2010), Web 2.0 technology makes possible the information value proposition. Its interactive features (such as discussion forums) facilitate the networking activity, which translates into collective intelligence, collaborative publishing or common databases for sharing knowledge (Bughin and Manyika, 2008).

P3: Partnerships enable the revenue model. The creation of partnerships facilitates the generation of revenue models. Creating alliances with government or banks makes possible revenue streams for the platform such as receiving fees from loans. Partnership activities are a crucial element which is consistent with the business model literature (e.g. Osterwalder and Pigneur (2010) that emphasises the importance of understanding activities that transcend organisational boundaries (Amit and Zott 2001, 2010).

P4: User acquisition and retention strategies enable the revenue model. Acquisition and retention strategies, facilitate the generation of revenue models. Traffic generates network effects, which creates value for the advertiser (by gaining more exposure). Also, database marketing is one of the most common strategies and has a special role in marketing (Brodie *et al.*, 2008). The most common revenue model is online advertising, and as the platforms grow, new revenue models are developed that make the business model sustainable (Achtenhagen, Melin, and Naldi, 2013; Hagiú and Wright, 2011).

In order to capture and understand the complexity and nuances of these interrelationships within a Web 2.0 context, one needs to be detailed and granular in the analysis of the business model. A case study method is therefore proposed and this is discussed in the next section.

3. Methodology

To describe and explain how the business model framework operates in a real context we use a multiple case study approach. Case

Table 3. Theoretical sampling

Value Proposition	Web 2.0 Sophistication	Product-Market Scope	SME Platform
Information & Networking	High	Broad-based	Company A
		Focused	Company B
	Low	Broad-based	Company C
		Focused	Null category
	High	Null category	
Information only	Low	Broad-based	Company D
		Focused	Null category

Source: Author's own elaboration.

studies help to uncover aspects and inter-relationships of complex phenomena in an organisational setting and to show that we are establishing correct operational measures for the business model concept (Yin, 2009). Multiple cases are effective because they enable the collection of comparative data, and so are likely to yield more accurate, generalizable theory than single cases (Eisenhardt, 1989). The logic followed for the case selection is shown in Table 3. Four cases were selected following a theoretical sampling method. Theoretical sampling was used to identify a sample of interesting cases that enabled us to test specific categories of the theory (Glaser and Strauss, 1967) with the objective of gaining a deeper understanding of the cases and to facilitate the development and testing of an analytic framework, i.e. our business model framework.

We focused our efforts on theoretically useful cases i.e., those that replicate or extend theory by filling conceptual categories (Eisenhardt, 1989). Our selection was based on the theoretical constructs in the research framework. Value proposition is the obvious first categorization followed by Web 2.0 sophistication. From the business strategy construct, product-market scope was chosen because distinguished between the platforms

very clearly from first inspection. The other aspects of business strategy required more detailed case analysis and were not used as the basis for categorization. Based on a survey of 76 social media platforms, none of the Information & Networking platforms had the combination of low Web 2.0 sophistication and a focused strategy. In the Information only category, only one large social media platform was found and this had low Web 2.0 sophistication and a broad-based strategy. This is to be expected because information only websites are unlikely to have sophisticated deployment of Web 2.0 technology. There was only one large focused platform and this is likely to be a reflection of the relative lack of maturity in this marketplace, i.e. focused strategies on particular market segments are a characteristic of mature markets rather than fast-developing ones in the early stages of development.

Three different data collection methods were used: a) Websites were selected by doing a comprehensive search to locate platforms offering information, advice and tools for new or established SMEs. Words such as advice, advisor, SME, entrepreneur, start-up and network were used in the search process and this resulted in the identification of 76 UK websites. Quantitative data on the

level of traffic allowed the identification of the leading platforms, which each have of the order of magnitude 100,000 unique visitors per month. b) Content analysis of each of the websites was conducted to get a sense of the strategy, evaluate the value proposition and measure Web 2.0 sophistication. Web 2.0 sophistication was categorized into two broad categories, high and low, and was measured based on the level of Web 2.0-enabled interactivity and the quantity of user-generated content. c) In-depth interviews were carried out with key informants from the companies, who all held senior management and technology roles (Table 4). The research interviews were focused on analysing and understanding the strategy of the platform and the detailed inter-relationships between the elements of the theory framework, in order to uncover the mechanisms and operations of the business model, in a dynamic fashion.

SME Platform	Interviewees
Company A	Head of Marketing; Head of Editing
Company B	Company Founder and General Manager; Head of IT
Company C	Head of Marketing
Company D	Head of e-Business, Innovation and Technology Solutions

Source: Author's own elaboration.

3.1. Questionnaire design and interview protocol

The interviews followed a line of inquiry as per the structure of the questionnaire. Although one pursues a consistent line of inquiry, the actual stream of questions in a case study interview is likely to be fluid rather than rigid (Rubin and Rubin, 2011). There were also conversational questions that were posed in an unbiased manner, which served the needs of the line of inquiry (Yin, 2009). The theoretical constructs from the proposed research framework shown in Figure 1 guided the structure and content of the questionnaire.

Interviews were recorded and transcribed to develop the content in the first stage of the analysis. A within-case analysis was carried out for each individual case, and causal maps were drawn to visualize the relationships

between the constructs. Company B was used as a pilot case to trial the effectiveness of the questionnaire design, interview protocol and analytical method of using causal maps. Based on feedback from the interviewees and our own experiences, the questionnaire was slightly modified and used in the other case studies.

The within case analysis was done to make sense of the SME platforms as individual cases, and then cross-case analysis was used to identify patterns across the cases for individual constructs and also higher-level patterns such as comparison of business models (Eisenhardt 1989). The within case analysis is shown in Table 5.

All four platforms were founded after the year 2000, which reflects the recent introduction of such SME platforms and the theoretical sampling ensured variety in the use of Web 2.0 technology, business strategy and value proposition.

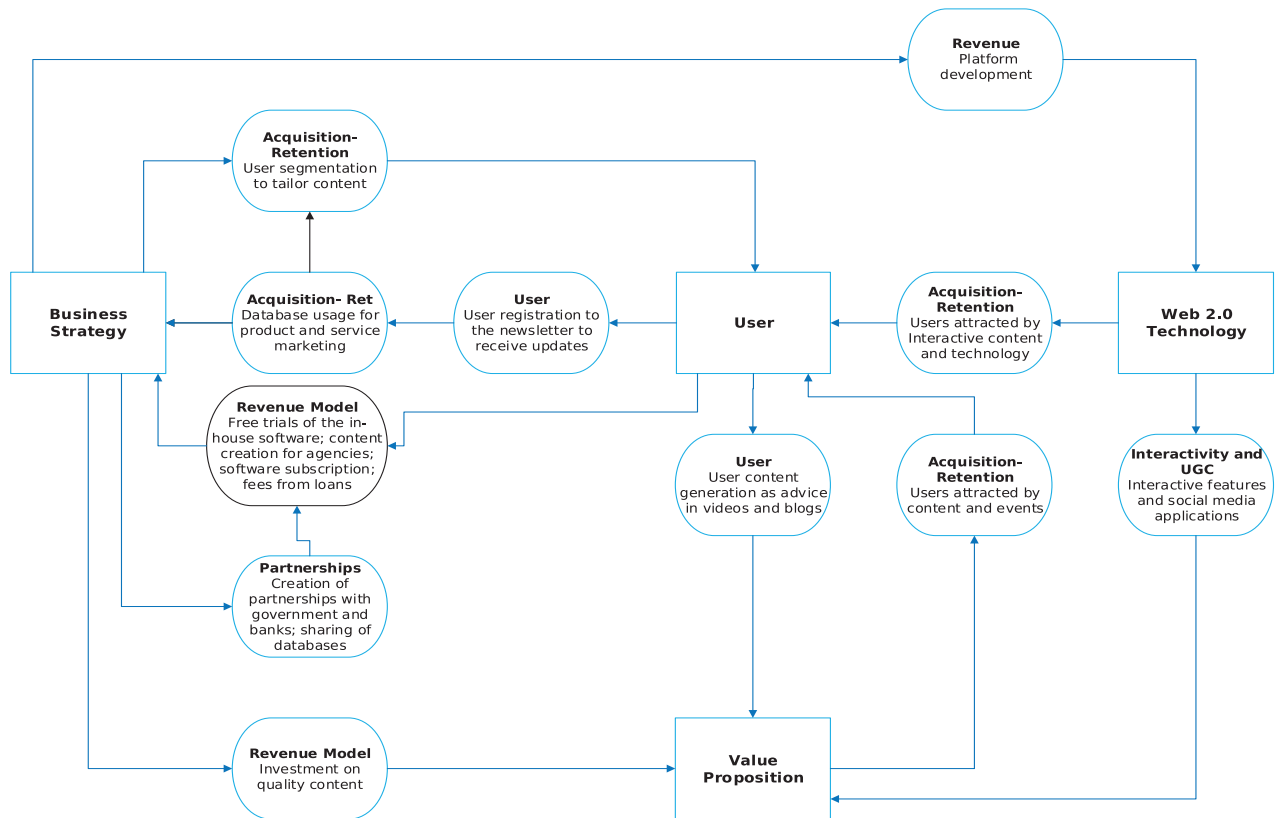
Causal maps are a good representation of an activity system because they capture the essence and dynamics of the SME platform business model. For example, Casadesus-Massanell and Ricart (2010) developed a system based on choices and consequences that creates causal loops, and this approach was developed further by Massa and Tucci (2013) who argued that the activity-system perspective allows for a more fine-grained description of business models supporting the use of theories to describe and understand the link between choices and likely consequences.

Causal maps clearly show the interrelationships between different activities. Causal maps are similar to case maps which were used to represent complex systems using scenario paths, segments, stimuli and connections (Gordijn and Akkermans, 2001). Causal maps though are a simpler method than case maps to represent the activity-system of a business model. A recent example that incorporates the use of these maps is the work of Ojala (2015) who depicts the business model logic to explain its evolution. Following Zott and Amit (2010) activity-system design framework, the causal maps presented in this paper reflect the activities, links and governance of a business

Table 5. Firm characteristics and within-case analysis

SME Platform	Value proposition	Web 2.0 sophistication	Product-market scope	Revenue models	User acquisition and retention	Partnerships	Within-case Analysis
Company A	Information and Networking. Content includes videos with advice, guides and e-books generated by experts besides blogs on a variety of topics. Events and awards offer opportunities to network.	High. Blogs, media sharing, interactive tools and social bookmarks. Clickable images, presence in major social media applications. Moderate amount of UGC.	Broad-based. Directed to all SMEs and entrepreneurs.	Sponsorship, Subscription, Transaction fee, Affiliate, Freemium.	Events, guides, social media, awards, vouchers, software improvement, newsletter updates.	Banks; Private companies; Finance organisations; Government.	Company A focuses on offering high value content and blogs that stimulate networking. Company A's high use of Web 2.0 technology enhances its content value proposition directed to a broad audience. The events and awards are the most successful user acquisition and retention activities for Company A. Company A's partnerships with banks are key to its success as they provide more user data to be targeted and advertise Company A's main complementary product, a business tool. Its high quality content generated the opportunity to create content for agencies through annual contracts.
Company B	Information and Networking. Content includes a directory of suppliers, guides, forms, notices, standard letters and articles produced by experts. Networking takes place in the discussion forum.	High. Discussion forum, social bookmarks, advanced mobile responsive design. Clickable images, presence in major social media applications. High amount of UGC.	Focused. Directed to landlords and property management agencies.	Advertising, Sales, Affiliate	Advertising on journals and trade shows, e-mail marketing, social media. Newsletter updates, software improvement.	Advertisers; Insurance company; Lawyers; Banks	Company B focuses on offering high value and specialized content for property managers and active networking through its for-a: Company B's high use of Web 2.0 technology and mobile responsive design attractive to users. The scale of its forum is attractive to users and advertisers, which has changed its original advertising revenue model to paid advertising. As it was well known pre-Internet, it does not need to invest in many user acquisition and retention activities. The insurance company and a number of lawyers are important partners that help to acquire users.
Company C	Information and Networking. Specialized content per website. Advice Q&A and blogs ran by experts allow networking.	Low. Blogs, media sharing and social bookmarks. Clickable images, presence in major social media applications. Little amount of UGC.	Broad-based. Directed to all SMEs and entrepreneurs.	Advertising, Sales, Affiliate, Transaction fee.	Social media (mainly Twitter); Offers (e.g. Google AdWords). Vouchers, software improvement, newsletter updates.	Google; Large companies.	Company C focuses on offering high value and specialized content in different websites. Its moderate use of Web 2.0 technology does not stimulate UGC. Company C's early use of Twitter has been a good strategy for user acquisition and retention. Its initial partnership with Google helped it launch and keep users attracted to the website. Company C has created revenue models based on quality content and its experts. The customized version of the website, is a complementary product that characterizes the platform.
Company D	Information Only. Content includes guides and advice on different themes generated by experts.	Low. Clickable images, presence in major social media applications. No UGC.	Broad-based. Directed to all SMEs and entrepreneurs in the north region of the UK	Sponsorship Affiliate	Article customization according to sector. First hand content. Newsletter updates, social media.	Government	Company D focuses on offering high value content however no networking functionalities. Despite its low use of Web 2.0 technology it is very successful as it provides first hand content on legal issues. Company D's partnerships with other government units provide it with a larger user database and help it acquire users.

Source: Author's own elaboration.

Figure 2. Company A's business model as activity-system

Source: Author's own elaboration.

model, which make it a powerful modelling tool. The causal maps of the business models for each SME Platform are shown in the detailed case analysis and are a feature of the within case analysis. The cross-case analysis compares each case against each other at the level of the individual theoretical construct, and also at the level of the business model concept. This replication logic provides an inductive validation of theory (Eisenhardt, 1989).

4. Results

4.1. Company A

Company A's business model is represented in Figure 2. The constructs proposed in our research framework are described as a sequence of related activities in this

model. The squares in the map represent the constructs proposed in the framework and the ovals represent activities. The arrows depict the sequences of activities and demonstrate the dynamic nature of the activity-system.

Company A's value proposition is based on providing relevant, authoritative and interesting information content for entrepreneurs and SMEs. In addition, it allows business owners to network with each other and share topical news and insights specifically concerned with small business issues. It was privately launched with funding from a national bank with the idea of providing a single location where small business owners could interact, learn and do business. Company A has a broad product-market scope and targets SME users from a range of market sectors. It also has services for new, growing and established SMEs.

The platform originally facilitated networking through Question and Answer boards where managers could write questions that were answered by subject experts. It soon became clear that a set of common issues affected all types of SMEs and the service evolved into a set of videos that feature successful entrepreneurs talking about specific topics. By using authoritative content and presenting it in a clear and accessible manner using Web 2.0, Company A established a strong reputation because its value proposition was characterised by high value information content that was presented in range of formats. In addition to professionally created content and established entrepreneurs talking about their own specialist topics, users also generate information content through comments in the blogs. However, in the case of Company A, the professional content is still seen as being much more important than that created by its users.

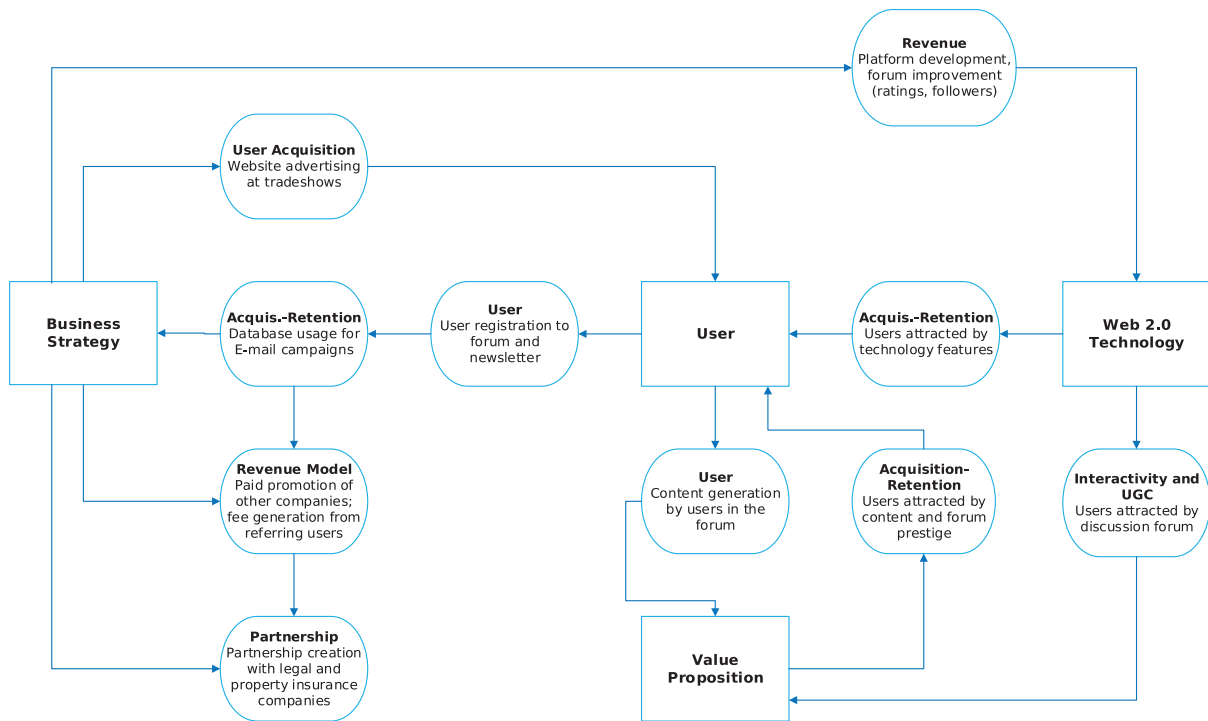
Company A uses several revenue models. The high quality content attracts visitors to the website, which then makes it attractive to sponsors who wish to target SME customers. This generates advertising revenue which is then used to develop further professional content. The website information is seen as trustworthy and authoritative, and is syndicated to other websites for a fee. Visitors to the main website are given the option of being enrolled as members. For additional fees, members are then able to access privileged content such as specialized videos and guides in Company A's website. This is termed a freemium model whereby members can access a certain level of information for free and are then given the option to access premium information for a fee. Company A also sells SME related products such as finance and software. For example, the government offers special loans to new start-up companies, and Company A receives a fee for every company that is successfully funded.

Because of the need to increase revenue, Company A has developed specific user acquisition and retention strategies, and also developed new relationships with economic partners that are focused on the SME market, in particular with the banking industry. To access most of the information on the website, Company A requires users

to register and members then also receive a newsletter with interesting updates and topical information. This generates a large database of SMEs, which can then be used in marketing for third parties, as well as for Company A's own marketing activities.

New content updates and improvements in interactive features are designed to keep existing users interested and engaged in the service and also to get casual users to become members and provide details about their business, which can then be used in database marketing campaigns. An example of Company A's use of the database to advertise its own products is to offer Company A's business software to its members and this product generates a significant portion of its total revenues. Company A develops its own software in-house. This successful product is a website creator that is easy to use, set up and manage, and that is optimised for search engines and is integrated into other standard software packages such as accounting systems. Software sales generate thousands of paying customers through a subscription model that maintains the relationship with SME customers over a long period of time and that provides additional opportunities to sell related products.

An important group of economic partners are the banks because Company A is a distribution channel for banking products, and the banks also promote the Company A's website to their own customers. Banks also sponsor events and awards that attract new users. Events are particularly successful at attracting new users to the website and also to keep existing members engaged and interested by introducing them to other members in an informal conference-style event. For example, a Company A award is important for a small company's marketing image. Winning the award gives a company direct marketing exposure as well as a cash prize. Company A reciprocates with its banking partners by offering advertising space to them on its website. Other user acquisition and retention strategies include the use of social media such as Twitter, which Company A uses to promote the company awards. In addition to sending general emails to all Company A members, the member database is also used to target specific information and offers to specific

Figure 3. Company B's business model as activity-system

Source: Author's own elaboration.

market segments such as information on how to attract funding for new start-ups, and how to finance for expansion for an established SME. A significant portion of the revenues is reinvested to improve the platform, both in terms of information content and customization, design and accessibility for mobile devices.

The causal map shows the complex relationship between the constructs user, value proposition, business strategy and Web 2.0 technology. It can be seen that Company A's business model depends on having a large user base and dynamic generation of new and interesting information content that is complemented by product sales and relationships with economic partners. Web 2.0 technology is the glue that binds these constructs, activities and business entities together to form a coherent business model.

4.2. Company B.co.uk

Company B was founded initially as a newsletter in 1999. It was designed to help landlords and agents successfully manage

their investment properties. Company B was an early adopter of the Internet and launched its website in 2000. It is currently one of the most visited landlord websites in the UK. Company B had the advantage of already being well known for its printed news circular and presentations at property conferences. The printed newsletter contained authoritative and well researched information and advice on all aspects of property management, including finance, marketing, tenancy agreements and property maintenance. Today approximately three quarters of its online traffic comes from Google's natural or organic search and it achieves very high natural search rankings because of the combination of its strong links with other influential websites and its extensive and relevant information content, which is all focused on property management.

Company B's business model is represented as a causal map in Figure 3.

The online user is placed at the centre of the activities and underpins the whole business model. Its users generate content on the discussion fora and this makes a

significant cumulative contribution to the information content and networking value proposition. The content from the discussion forum and also the independently generated content from the company itself and also from its economic partners, attracts further users to start browsing the website without having to pay. Company B's founder refers to the free content and service offered to its visitors as a 'free newspaper'.

Some of these users will subsequently become contributors. The high number of users who are all interested in a very tightly defined market is a valuable resource for advertisers who wish to address this market segment. Company B has therefore developed partnerships with legal, insurance, property maintenance and banking organisations that wish to market to landlords. These economic partners contribute revenue through direct advertising on the website and also from fees paid to access the email database marketing system. In addition, the company has developed its own insurance services, which gives information about potential clients to Landlords who subscribe to the service. Interestingly, the company has continued to be active in property trade-shows and events, because this increases the profile and credibility of the company to its existing users and is also an important promotional tool to acquire new online users.

The more users there are on the website, then the more information content is generated, either directly from landlords themselves, or from professionally generated content that is paid from advertising and email database revenues. There is clearly a network effect here that creates a dynamic growth path once the company has reached a particular size. The on-going generation of new content in the discussion forums and from professional authors also helps to maintain users' interest in the website and therefore improves the retention of users. The network effect also serves as a barrier to new entrants because it makes it difficult to replicate the scale of the online community, from which much of the value of the website is derived.

4.3. Company C

Company C is a website, which began as

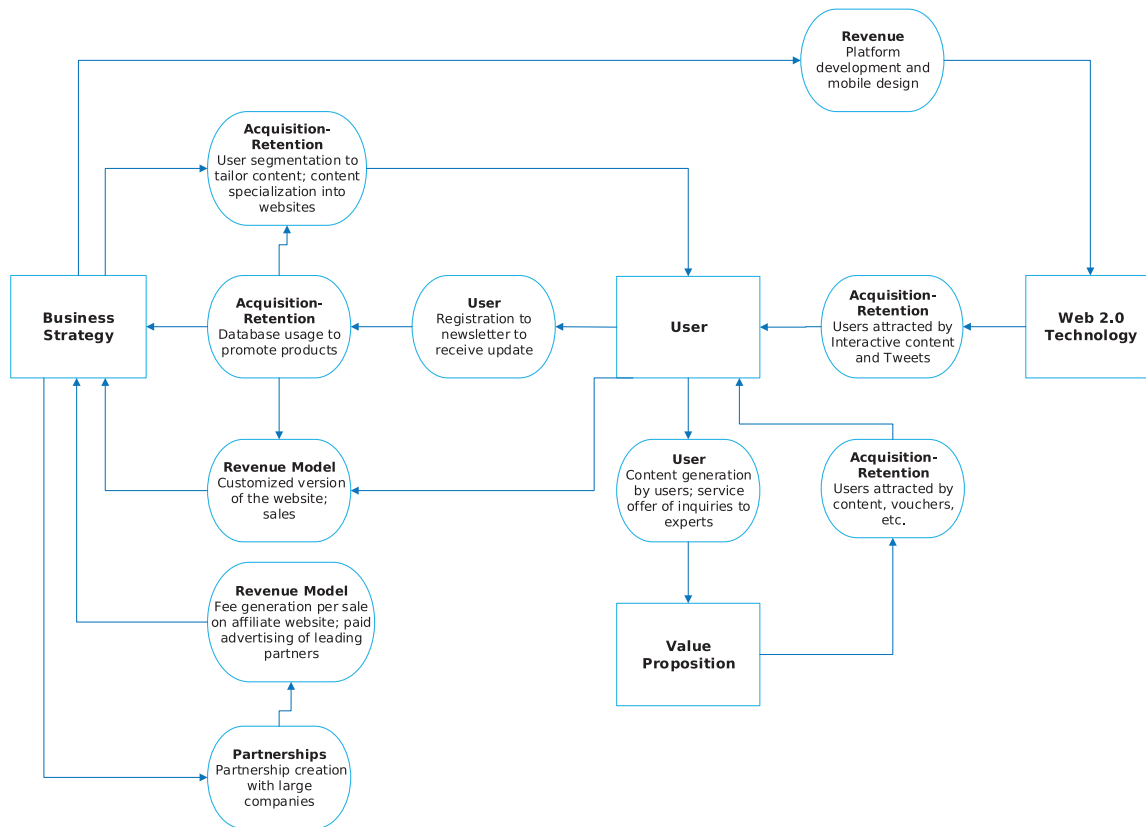
a publisher in the early 1990s working with the national business support for SMEs, now www.gov.uk. It produced approximately half of the website's content and was therefore in a strong position to launch a new service targeted at SMEs. In 2009, Google became interested in the idea of replicating the information content so that any company could have its customized version of the website. That is, a client would license the business advice and information content of the website and have its own branded version of the website that it could present to its own clients and prospects. Google invested in the company and this has enabled it to grow and invest in new content and technology, though its use of Web 2.0 is still relatively low compared to its competitors. The causal map of Company C's business model is shown in Figure 4.

The use of syndicated content across multiple websites is an important area of differentiation and one that can potentially help the company to grow its offering to different audiences through multiple websites, each branded as a standalone website and aimed at different segments of the SME market. One of the challenges facing Company C is therefore to offer a core content and platform that can be used for all SME users, and then use smart content management systems to offer distinctive and specialized content that matches the specific requirements of individual client websites. At the centre of the business model is the sale of the branded version of the website because this increases the number of SME users, which is at the heart of the revenue model that is based on paid advertising, affiliate marketing and fee income from sales transactions. It also makes the website more attractive to partner organisations, which in turn adds complementary products and services, which are of value to SME businesses.

4.4. Company D

Company D began as part of a government strategy to accelerate the growth of entrepreneurial activity in the north region of the UK. It started in partnership with the official government website, and by 2011, the company had developed its own website. The objective was to offer open and free access

Figure 4. Company C's business model as activity-system



Source: Author's own elaboration.

to business information and guidance for entrepreneurs and SMEs in the north region of the UK. It does not have a commercial remit to become profitable and does not generate any revenue. It is funded entirely by government sponsorship. Around 80% of its visitors come from natural search, which is a reflection of the authority and relevance of its information content. The causal map of Company D's business model is shown in Figure 5. Note that it is relatively simple because there are no revenue generating activities.

Company D business model has no user-generated content and has failed to embrace Web 2.0 technology and associated social media strategies. It therefore relies entirely on professionally generated content from government sources and independent advisors. The website has its own member database and is also promoted via similar databases held by other government

departments. The success of Company D is measured by its ability to attract and retain SME users rather than in its ability to generate revenue. However, its business model is starting to look dated because it is not adopting new technology. Its success is based on its historical strengths of owning authoritative information content and its legacy database of users.

4.5. Cross-case comparison

Construct validity is achieved by a comparison of constructs across multiple cases, which tests the construct in different organisational settings (Eisenhardt, 1989). This methodology follows a replication logic by applying the same structure to each of the cases to provide an inductive validation of the theory. To do this, we focus on the propositions made. Table 6 summarizes the different propositions and their occurrence

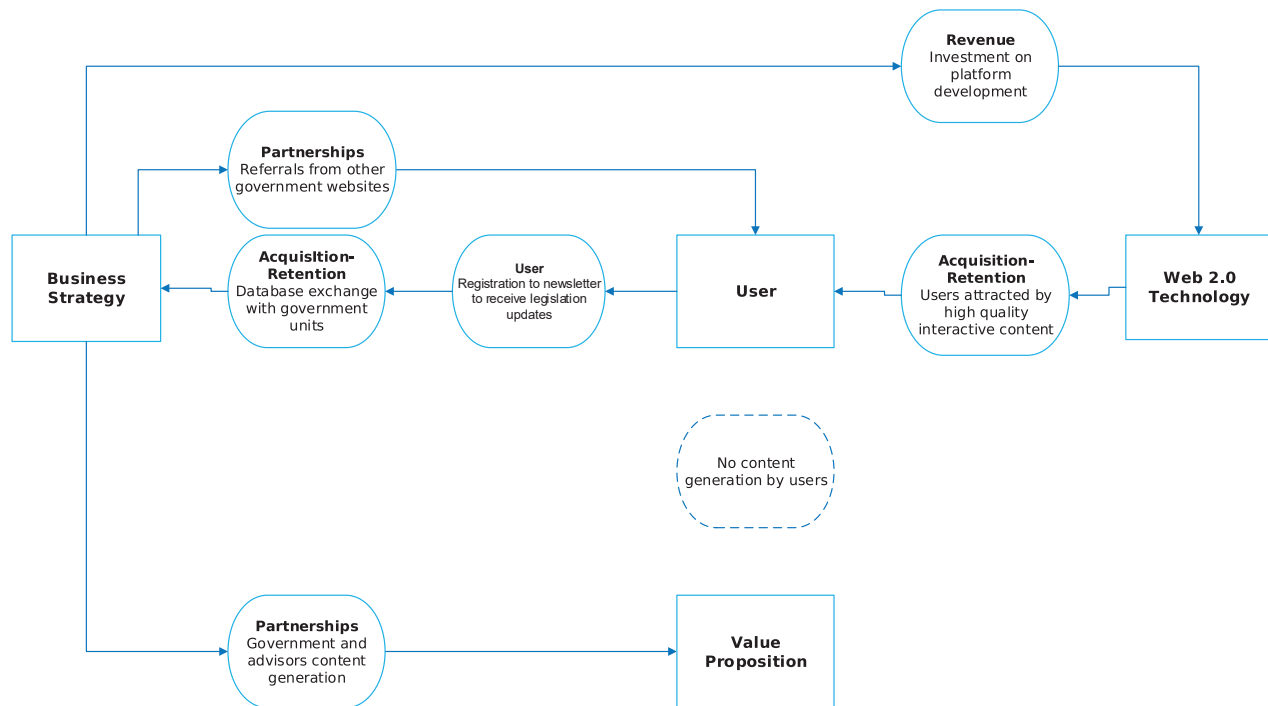
Table 6. Propositions based on case studies

	Relationship	Case 1	Case 2	Case 3	Case 4	Support Case 1	Support Case 2	Support Case 3	Support Case 4
P1	AR => VP	✓	✓	✓	x	"We are trying to get more views and as we get that, more people sign up as they want to hear more stuff". "At the moment all we have is a database to market to but we'd rather have a membership database so that people can go into their profile, see all the different products they own and have access to exclusive deals".	"The forum is probably our biggest traffic attracter and the more users, the richer the forum". "We advertise in real estate magazines and that brings the type of people we want to contribute"	"As we get more users, some become experts and that makes possible the service offer of inquiries"	"We make sure we have a significant amount of content with about seven hired people on average working on it"
P2	W2 => VP	✓	✓	x	x	"Our customers talked to each other a lot more but that kind of died down and Company A started doing other stuff, such as blogs and videos with interesting content".	"We were one of the first websites providing specialised advice with internet technology. We saw what American companies were doing and followed them"	"Reality is that every website tries to generate a community but people already have too many such as Facebook, Twitter, LinkedIn"	NA
P3	PR => RM	✓	x	✓	x	"Large banks have a few thousand businesses a week in a bank account and if every single one of them gets our software you couldn't get that just online"	"We have a key partnership with insurance companies, lawyers and banks. This is very important as they refer clients to our website and we do the same"	"Leading partners pay for advertising. They are usually large companies". "The dream would be to have a product we could sell to customers but we don't have it so we find someone who has it."	"We don't generate revenue. We advertise other government departments with links on our website and don't get paid for this. And they also advertise us in theirs. We even provided sponsorship at some point to agencies, universities and entrepreneurs"
P4	AR => RM	✓	✓	✓	x	"Entrepreneurs meet people at the events that we hope will help them run their business. That makes them feel very good about Company A and they are willing to pay for then they are willing to spend a small amount of money"	"When users register to the newsletter, we generate a database that we later use for paid promotion of other companies"	"As the traffic increases to the national website, that is, Company C, then more and more the advertising model catches up. In the future it will be more interesting"	NA

AR = Acquisition-Retention; W2 = Web 2.0 Technology; PR = Partnerships; RM = Revenue Model; VP = Value Proposition.

Source: Author's own elaboration.

Figure 5. Company D's business model as activity-system



Source: Author's own elaboration.

in each of the cases studied. For each proposition, there are supporting statements from the interviewees.

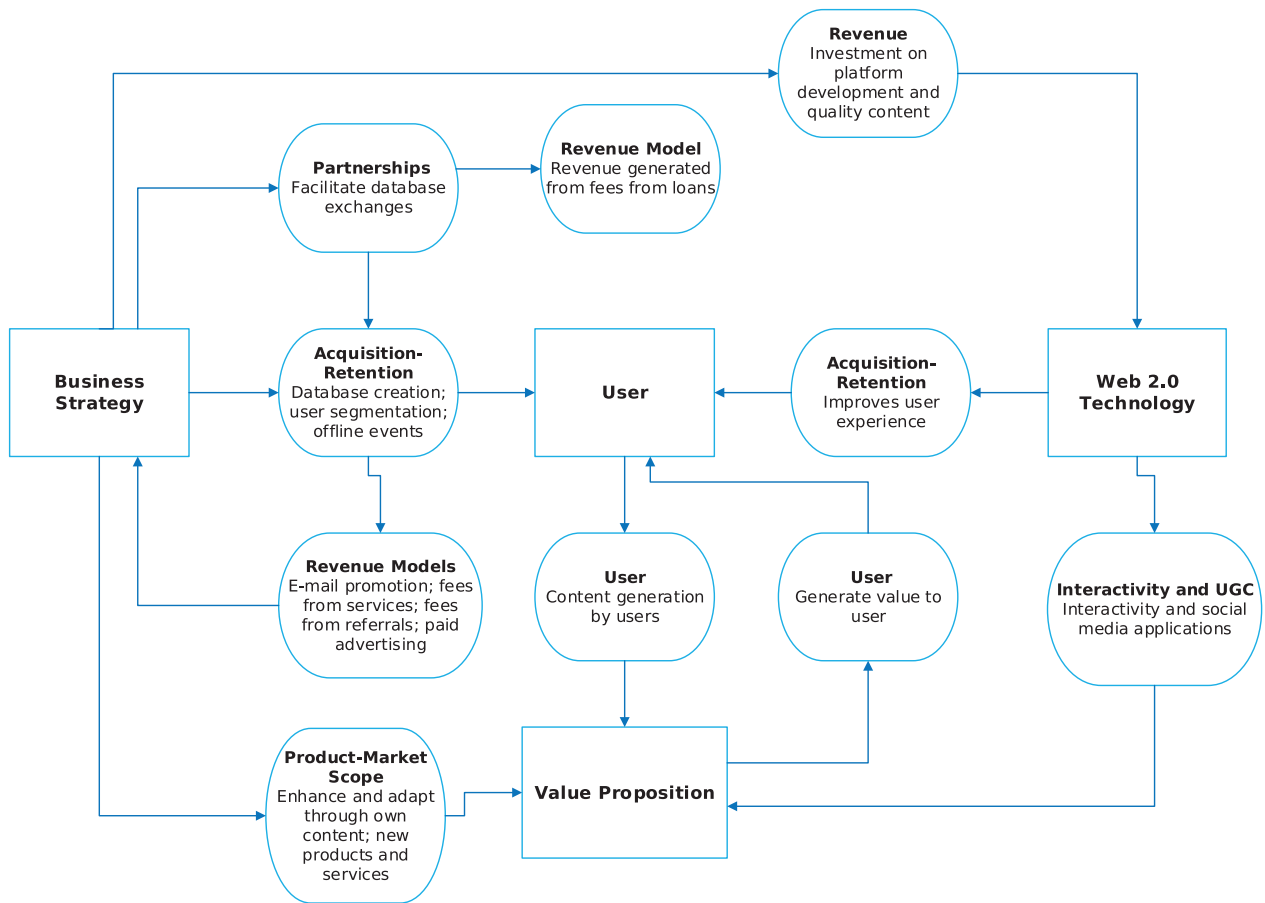
Based on the results, Proposition 1 is supported by cases 1, 2 and 3, which are of a similar nature as they are private platforms. Case 4 is a government owned platform where content is authoritative and networking takes place offline. Proposition 2 is only supported by Cases 1 and 2. In Case 3, however, results showed that including forums or social networks are not part of the platform's objectives. This is due to the fact that companies consider there are already other options available for users, so they decide to focus on the content. Proposition 3 is only supported by Cases 1 and 3. Partners make possible the generation of fees from content creation and sales on affiliate websites. Proposition 4 is supported by Cases 1, 2 and 3. Due to their non-profit nature, both propositions 3 and 4 do not suit Case 4. The product-market scope variable is

left out of the analysis. However, we can tell that this strategy, helps to create adequate products and services for the user. It also makes possible enhancement and adaptation through the generation of the platform's own content.

The analysis is concluded with the proposal of a general business model using causal map logic that explains the operations and dynamics of all of the SME platforms in the study.

4.6. Proposed Generic Business Model

Based on a synthesis of the business models of each social media platform, a generic business model is proposed that is based on a causal map of activities grouped according to the theoretical constructs in the research framework and on the propositions that were confirmed. The generic model is shown in Figure 6.

Figure 6. Proposed business model as activity-system

Source: Author's own elaboration.

The advantage of graphically representing the activities and their inter-relationships within the business model system is that it gives us an overview of the detailed mechanisms of the business model, it tells us about the structure of the business model and the nature of the dynamic changes that occur within it and it allows us to identify key components in the model such as a linchpin activity. A linchpin activity in this context is a crucial activity that, were it to be removed, would impede or halt the smooth functioning of the system. The user feeding the registration to the newsletter, which generates a database is an example. The relevance of Web 2.0 technology is also clear as we find a sub-system within the activity-system comprised of a set of Web 2.0 related activities that together show the Web 2.0 strategy and therefore, the relevance of the construct. In summary, causal maps help us

to better understand the micro-mechanisms of business models (Zott and Amit, 2010). The above examples and the proposed generic model make an empirical contribution to the business model literature by providing real-life examples of how the activity-system approach can be applied to business models, in this case to a new set of social media platforms that have received scant attention from academics.

5. Discussion and Conclusions

SME platforms represent a distinctive class of social media, which has been largely ignored in the academic literature and has focused on the major consumer platforms' business models. The platforms described in this paper are important because

SMEs represent a strategically important segment of the UK economy because of their contribution to employment, economic growth and innovation. This is also true in the US and also in other European countries.

We have developed a theoretical framework to analyse business models based on a broad range of literature, especially from the strategy, information systems and marketing disciplines. This has given us the opportunity to develop a model with broad theoretical constructs and which has face validity with managers. A particular feature of the model is that we have emphasized the role of the user in our model, in this case small business owners and entrepreneurs. The theory constructs have been implemented using key activities and this has given us a rich set of case data and makes an empirical contribution by testing the activity-system approach to business models in a high-technology context. Some of the ideas may also have relevance in similar business models, e.g. the inclusion of user acquisition and retention strategies as an important activity within the strategy construct. The study also explains very clearly why the measurement of online performance, in particular the number of visitors and members of a website, is so crucial to the ongoing commercial success of these websites, which rely heavily on online advertising.

We used multiple case studies to analyse the business model constructs and their interrelationships. This is different to most research on business models which have typically relied on industry examples from secondary data sources and/or single academic case studies (Demil *et al.*, 2015). The use of multiple cases adds methodological rigour and increases the validity of the individual framework constructs, as well as testing the logic and veracity of the overall business model (Eisenhardt, 1991). The business model framework proposed is based on four constructs: value proposition, Web 2.0 sophistication, business strategy and user. Although the relevance of the customer has been recognized in the literature (Demil *et al.*, 2015; Coombes and Nicholson, 2013; Morris, Schindehutte, and Allen, 2005; Hedman and Kalling, 2003) the user itself, whether a first-time visitor or a registered member of the website, is not commonly found in business model frameworks.

The operation and dynamics of the business model were measured by an activity system. Activities feed each other and work as closed systems where the revenues are reinvested in the platform, which then attracts further users and increases future revenue. This is in line with the idea that business models often generate virtuous cycles, feedback loops that strengthen some components of the model at every iteration (Casadesus-Masanell and Ricart, 2010). By uncovering the mechanisms through which SME platforms' business models work and translating the framework elements into actions (Sosna, Treviño-Rodríguez, and Velamuri, 2010) we showed the value of the activity-system approach. The causal maps helped to represent the activity-system where the number of links to an activity and their direction strengthen an activity and its associated construct.

While there are indeed 'role models' (Baden-Fuller and Morgan, 2010) they tend to be used in combination. Firms innovate as they allocate different roles to stakeholders (Giesen, Berman, Bell, and Blitz, 2007) (e.g. users who generate content in exchange of prestige and publicity) and by creating new sources of revenue. Consumers are now used to getting information-based products and services for free or at very low cost. The SME platforms therefore need resources to continue to develop high quality content and at the same time create innovative revenue streams (Teece, 2010) that monetize the value of the information assets such as the member database and their online audiences.

The value proposition is based on the quality and relevance of the business information and all of the websites invest in professional authors to develop this content. The promise of Web 2.0 and social media is that users can become involved in the creation of valuable content in a dynamic and exciting manner, and this seems particularly apt in the context of SME platforms because many of the users are knowledgeable experts, based on many years of experience. However, user-generated content played a critical role in just one of the platforms, Company B, which has a very focused product-market scope. None of the other social media platforms attracted significant content from their members and one possible explanation is that their broad focus does not attract

individuals with specialist knowledge and expertise. It may also be attributed to the fact that for historical reasons, the property agent community is more homogeneous and willing to help each other than the broader SME community. The network effects from user contributions are therefore likely to be limited for the broadly based platforms unless they find a mechanism for high contribution levels from their members. The network effect is considered to be an important component of market dominance in social media platforms (O'Reilly, 2005) and this is an important strategic issue for all of the platforms to consider.

To acquire and retain users, all of the companies used a combination of Web 1.0 and 2.0 technologies. The most important Web 1.0 technology was the innovative use of member databases. Database marketing was used to communicate directly with members on behalf of the platforms and also to promote products and services from their economic partners. A range of other strategies were also deployed, including search engine marketing, offline marketing at trade shows and conferences and partnerships based on data exchanges with non-competing organisations (Brodie *et al.*, 2008). Web 2.0 technology was used primarily to facilitate the delivery of information such as videos and also to enable the social networking and discussions between members. This is very important for retention because it keeps the information fresh and the interactive nature of the website maintains users' interest in the content. The generic model shows that the revenue streams of these platforms are all a function of size, i.e. the number of visitors to the website and the scale of their member database. Unique visitors and member size and growth are therefore important measures of success and are likely to lead to an increase in revenue, which can then be used to create the virtuous circle of improved content and technology, which in turn attracts more users and revenue.

Investment in Web 2.0 technology is always focused on improving the experience of the user, e.g. personalizing the website, providing information that is easily accessible on mobile devices and enabling discussion forums, video sharing and social networks.

These strategies all confirm the importance and relevance of the user (Teece, 2010; Demil *et al.*, 2015).

The methodological contribution of the paper is that it tests the activity-system approach to business models by applying it to four companies in a high-technology context. The use of causal maps is also innovative because we demonstrate how this approach is effective at capturing the micro-mechanisms of business models in four different organisations. The approach had face validity with the managers in the study because it was straightforward to visually describe and explain the detailed operation of their business models.

A limitation of the study is that the research is focused on the UK only. However, the theoretical sample of different types of SME platforms and the fact that all of these platforms are recognised leaders does help to ensure that the sample is representative of the theory and also to an extent, representative of the best practice in this area and is therefore a good indicator of the future development of these platforms. Based on our understanding of similar SME platforms in the US, we believe that this approach could also be usefully applied in that market, where there also appear to be similar characteristics in terms of revenue streams, strategies, use of Web 2.0 and value proposition. A promising area for future research is to look into the evolution of SME platform business models and explore the nature of the change processes in more detail. For Eisenhardt (1989), the ideal number of cases to study is between 4 and 10. This research is based on four cases. Further research could look into a larger number of cases in order to make results extrapolable to other regions, types of enterprises and cultures.

Two researchers were involved in the initial interview (Company B). However, only one researcher was involved in the rest of the interviews. There is therefore, a potential key informant bias (Dubé and Paré, 2003). Further research in this area, involving more interviewees, should include multiple researchers to avoid such potentiality. In our case however, both researchers worked on the data analysis process.

6. Acknowledgments

We would like to thank the four company managers and their staff for their kind participation in this research.

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¿How to quote this article?

Gutiérrez-Leefmans, M., & Holland, C. P. (2019). SME Platforms as Business Models: A User-Centric Activity-System Approach. *Cuadernos de Administración*, 35(63), 52-77. DOI: <https://doi.org/10.25100/cdea.v35i64.7248>