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IT ENABLED CO-CREATION PLATFORMS: TAPPING THE POWER OF THE PROSUMER

M. SHANE BANKS

MIDDLE TENNESSEE STATE UNIVERSITY

shane.banks@mtsu.edu

COLIN G. ONITA

UNIVERSITY OF AKRON

onita@uakron.edu

WILLIAM J. KETTINGER

UNIVERSITY OF MEMPHIS

bill.kettinger@memphis.edu

ABSTRACT

Organizations are leveraging the power and reach of innovative web-based technologies to form mutually beneficial partnerships with their customers. These partnerships are facilitated by IT enabled co-creation platforms – an IT enabled collection of tools, processes, and information that supports and enhances the activities performed by an actor in pursuit of a goal that generates value-in-use through the encounter process between actors within the boundary of the platform. Utilizing a qualitative case study approach, this study seeks to begin to develop an in-depth understanding of IT enabled co-creation platforms by examining the roles of the actors who engage with the platform and how these roles affect the value propositions that lead to the co-creation of value.

Keywords: co-creation, information technology platforms, prosumer, case study

INTRODUCTION

The exponential growth of the Internet and related information technologies has provided companies with new avenues to pursue mutually beneficial partnerships with their customers. These partnerships have become essential to the creation of value in the exchange relationship. In this new business model the producer and the customer work together to co-create value [28, 20]. In this co-creation relationship the line between the producer and the consumer is blurred and has given rise to the

“prosumer” who is both the producer and the consumer of value [31, 23].

Internet-based start-up businesses continue to pursue innovative business models and have seized the concept of co-created value and extended it to the next evolutionary phase. These innovative companies are developing IT Enabled Co-Creation Platforms (CP) that provide the infrastructure, initial value proposition, and co-creation tools that together with the contributions of prosumers facilitate the co-creation of value. The long-term viability of these new businesses is entirely dependent on the platform’s ability to attract prosumer contribu-

tion while leveraging the network effect to achieve a self-sustaining critical mass. Many of the most popular websites in the world, including Facebook, Twitter, and YouTube, have developed CPs designed to attract and maintain co-creation relationships with prosumers in a joint effort to create and sustain their value proposition.

Although CPs are attracting millions of users, the roles of the various actors and their differing value propositions for interacting with the CP are not well understood. We address this gap in the literature by examining the following research questions:

- What are the different roles of actors who engage with IT Enabled Co-Creation Platforms?
- How do these roles affect the value propositions that lead to the co-creation of value in the setting of IT Enabled Co-Creation Platforms?

We examine CPs through the lens of Actor Network Theory which describes the process by which a group of heterogeneous actors are aligned around a common interest. To investigate our research questions we chose a case study approach which is an appropriate methodology for developing an in-depth understanding of new phenomena [32]. The case study examined the Zillow.com IT-enabled co-creation platform. Zillow.com is a rapidly growing online real-estate information and collaboration platform that provides the infrastructure and tools that various actors use in a joint effort to co-create value.

This paper is organized as follows. First, the theoretical foundation is offered including the application of actor network theory to the CP context and a review of the co-creation of value and prosumer literature. Next, the CP is described and the research approach is outlined including the data collection and analysis techniques. A narrative of the case study is then presented followed by our findings. The paper concludes with implications, limitations and final thoughts.

THEORETICAL BACKGROUND

Actor Network Theory

Actor Network Theory (ANT) describes the various entities and their interconnections that exist within a heterogeneous network of human and non-human “actors” aligned around a common interest [6, 29, 33]. This collection of interconnected actors is referred to as the “actor network”. A primary focus of the theory is to explain the process by which relatively stable actor networks of aligned interests are created and maintained [30] by “the enrollment of a sufficient body of allies and the transla-

tion of their interest so that they are willing to participate in a particular way of thinking and acting that maintains the network” (30, p. 42). ANT describes how individuals become part of a network of interests and values, and then transition from one role to another within the network as their set of interests and values changes.

ANT helps describe the processes through which actors determine if their participation in the network, as active or passive actors, will provide them with a personal benefit that outweighs the cost/effort required to join with the network [5]. Once the individual decides the benefits outweigh the costs, a process of enrollment [5] takes place, which involves the acceptance by the various actors of their negotiated role in the actor network. Once enrolled, the actors are assimilated into the network and become a part of the collective actor network. Actors in a given network are aligned around similar interests, but actors may or may not have exactly the same goals [24]. The roles accepted by actors may also change and evolve over time depending on the goals that are salient to the individual actors.

Co-Created Value

Traditionally, value has been viewed as a perceived difference between benefits and costs of acquiring a product or service. This implied a relationship where the costs for the producer – in the form of benefits for the customer (quality, features, etc.) – were transposed against the costs for the customer in the form of price. Value in this way is considered a zero sum game, where the loss of one party leads to the gain of another.

In contrast, the new view of value views value not as a zero sum game, but as a mutually beneficial relationship where overall value is increased by the participation of the customer in value creation. The new view of customer value is a result of the shift from the traditional Goods-Dominant logic to the new Service-Dominant (S-D) logic proposed by Vargo and Lusch [28]. S-D logic is a new way of looking at the exchange of value. “A service centered dominate logic implies that value is defined by and co-created with the consumer rather than embedded in output” [28, p. 6]. In S-D logic, goods (offerings) simply serve as vehicles for service provision, there is no value until an offering is used and therefore the user is always co-creator of value. This is the idea of value in use rather than the traditional value in exchange. A customer obtains value from a good or service when and only when the good or service is used by the customer, thus value is “defined by and co-created with the customer” [28, p. 6]. In this view, value is dynamically co-created by both producer and customer where the “value is created by experiences” [19, p. 172].

The customer's value creation process has been defined by Payne et al. [18] as a "series of activities performed by the customer to achieve a particular goal" [18, p. 86]. In order to achieve a co-created value, a supplier needs to provide the customer with the means to achieve his or her goals, and also a means for the supplier to reap benefits from the customer's goal directed behavior.

Rebirth of the Prosumer

Xie et al. [31] define prosumption as "value creation activities undertaken by the consumer that result in the production of products they eventually consume and that become their consumption experiences" [31, p. 110]. Prosumption itself is not a new phenomenon as for thousands of years consumers have consumed part of what they produce (food, clothes) as well as engaged in trading some of their production for other goods and services [27]. The term "prosumer" describes an individual who is both the producer and consumer of value.

Prosumption began to decline during the industrial revolution when advances in manufacturing technology allowed products to be mass produced at significantly reduced cost. The factory became the central focus of the new production based economy as production began to move away from the individual producer [23]. Customers accepted that when buying a product "off the shelf" it may not be exactly what they wanted, but it would meet most of their needs and cost less. For example, Henry Ford is often quoted as saying a customer can have any color Model T they desire as long as it is black.

Beginning after World War II and accelerating through the next few decades the trend began to shift from a production focus to a consumption focus as production was increasingly outsourced to less developed countries and "cathedrals of consumption" such as Wal-Mart, giant shopping malls, and massive entertainment industries began to dominate the economies of developed countries [23]. Measures such as the consumer confidence index are now considered an important indicator in assessing the health and future prospects in the consumption focused economy.

Prosumption and the prosumer have recently experienced a rebirth as the Internet and specifically new web technologies have provided new ways for the prosumer to engage in the value creation of product and service offerings. "In a sense, prosumption has been brought back through the use of high technology" [31, p. 110]. The ability of businesses to co-create and customize product offerings based on the desires and input of the prosumer has quickly become a necessity in the fast-changing, hyper-competitive modern business environment. To tap the power of the prosumer, innovative com-

panies are "providing managed and dynamic platforms for consumer practice [16], which on the one hand free the creativity and know-how of consumers, and on the other channel these consumer activities in ways desired by the marketers" [34, p. 165].

IT ENABLED CO-CREATION PLATFORMS

An IT Enabled Co-creation Platform (CP) is defined as an IT enabled collection of tools, processes, and information that supports and enhances the activities performed by an actor in pursuit of a goal and which generates value-in-use through the encounter process between actors within the boundary of the platform.

The CP co-creation activity is defined as non-casual involvement of an actor with the platform in a joint dynamic and interactive process of creation and consumption of content within the boundaries of a customized service platform; a process that involves information and social exchanges in a dyadic user-platform relationship [3, 20, 21, 18, 25]. The interaction of actors with the platform is motivated by a series of benefits that accrue from the use of the platform and from the creation and consumption of domain related content. The benefits depend on the type or role of the actor in the co-creation activity, and on the value propositions that accrue from the interactions between the actor and the CP.

The CP is an artifact that offers individual actors with specific value propositions arising from their co-creation activity on the CP. Value propositions can include intrinsic, personal value related to self-actualization and enhancement [7], economic and informational value [11, 9, 4] and hedonic or entertainment value [2, 10, 17]. While all these value propositions are important, they may differ in weight depending on the purpose of the CP and the domain of activity to which it caters. In Figure 1 we offer a conceptual model illustrating how the various actors are connected through the platform and are providing and receiving different values according to their role in the network.

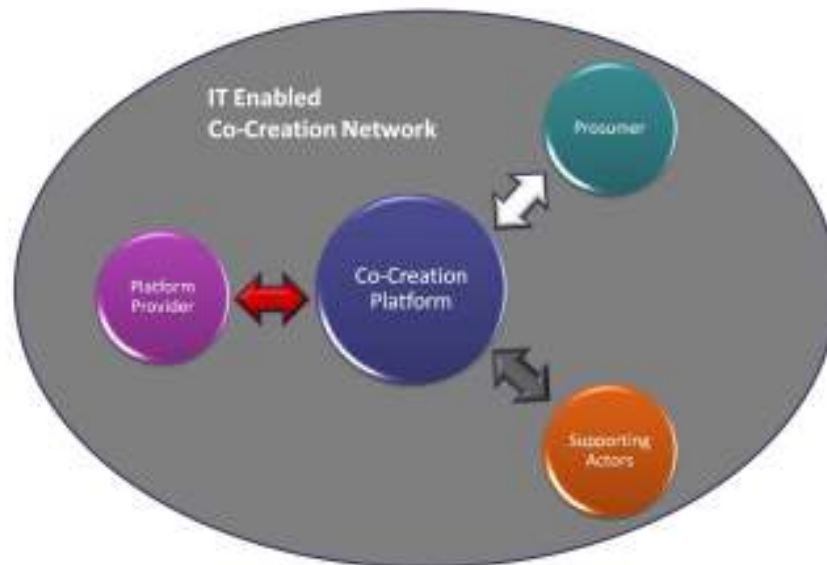


Figure 1: Conceptual Model

A co-creation platform enables the traditional co-creation process by providing an open, transparent platform where individuals can create value for themselves and for others. An important feature of the CP is that it facilitates interactions between large numbers of geographically dispersed actors who simultaneously and transparently engage in co-creation activities. This provides increased, multiplicative value to the individuals and other entities that interact with the CP and with each other. The multiplicative nature of value creation comes from the fact that value increases exponentially with the number of actors engaging the platform. The value creation propositions depend on the type of platform and on the type of task or goal that the individual pursues when interacting with the platform. Value is created during the encounter process between the CP and the individual, but the amount or level of created value depends on the depth of interaction. Value exists on a continuum from value that is mostly one sided – when one party gains significantly more value than they create – and reciprocal value where all parties involved in the encounter gain relatively similar value from the interaction. Thus, the value creating propositions segment the population interacting with the CP into different roles based on the goal of the actor and the amount and type of value being created.

A CP adds value by providing information that is otherwise unavailable or that is more difficult to obtain from other sources as well as providing its users with value that arises from the aggregation of all instances of val-

ue adding activities by the many roles that exist in the environment of the platform. For it to be an enabler of co-creation activity, the CP provides some basic value creating features. A CP provides a basic infrastructure that enables co-creators to meet in a virtual space and provides them with communication tools, information search and retrieval tools, information repositories, individual profile maintenance tools and a way to provide and consume co-created value.

The interactions between the actors within a co-creation platform form a network of value between creators and consumers of content. Each actor on a CP can take on different, evolving roles depending on their depth of interaction with the CP, the characteristics of the task that they wish to accomplish with the help of the CP and on the value set that they create or consume. This creates a heterogeneous network of dissimilar actors represented by both social and technical elements (human actors, organizational actors, technological actors) [29].

The CP itself is an active actor in the value creation network. The CP not only provides an infrastructure where other actors meet, but it also interacts with the other actors and actively shapes and influences the activities within the value network. The CP, therefore, has an evolving role within the value network that is constantly created and negotiated by the actors participating in the network. This gives rise to a set of dynamic roles that actors can assume. A basic set of generic roles of actors in a CP are:

- Platform Provider - designer / owner of the platform
- Co-Creation Platform - IT enabled co-creation infrastructure
- Prosumer – actors that produce and consume content
- Supporting Actors – actors that provide ancillary data, services, and infrastructure frameworks

The dynamic evolution of actors from role to role is what sustains the continued existence of the platform. Consumers become creators and vice versa. Actors have a dynamic evolution between different roles within the platform. A similar trend was identified by Ridings et al. [22] who observed a gradual progression of individuals on online communities from consumers of content (lurkers) to creators of content (posters). This dynamic evolution is a central aspect to the sustainability of the platform. Furthermore, supporting actors provide services and infrastructures ancillary to the primary domain of the CP. The CP itself evolves and builds additional services in its service offering set.

RESEARCH METHOD

To develop an in-depth understanding of actor-networks, ANT suggests that researchers should “follow the actors” to learn how they build and explain their world [5, 6]. In this research we adopt this approach by implementing a qualitative, single case study research approach. This is an appropriate methodology for investigating a relatively new phenomenon such as IT Enabled Co-Creation Platforms [26, 32]. Guided by our theoretical foundation, our research efforts focused on identifying the key constructs, relationships, and value propositions that exist within the network facilitated by the CP. Our theoretical lens was applied throughout the iterations of data collection and analysis resulting in the linking of theory and data [8].

An interview protocol was developed that was informed by our theoretical framework. Data were collected from multiple sources resulting in a triangulation of data which increases the reliability and validity of case study research [32, 8]. Data sources included semi-structured interviews with Zillow.com users, direct observation of the ongoing use and evolution of the platform, direct interaction with the platform artifact, Zillow.com corporate documents and press releases, written and video news interviews with Zillow.com founders and industry experts, and interaction with users through forums provided by Zillow.com.

Research Site

Zillow.com (Zillow) is an online real-estate CP that enables various actors aligned around a common interest in real-estate to co-create value. Zillow’s mission is to “empower consumers with information and tools to make smart decisions about homes, real estate and mortgages” (<http://www.zillow.com/corp/about.htm>). Zillow reported over 30 million unique visitors in the month of February 2012, and has continued to see increased revenue, profitability, and web site traffic. According to the Zillow.com website:

Zillow is a home and real estate marketplace dedicated to helping homeowners, home buyers, sellers, renters, real estate agents, mortgage professionals, landlords and property managers find and share vital information about homes, real estate and mortgages. We are transforming the way consumers make home-related decisions and connect with real estate professionals.

Zillow provides a collection of tools, processes and infrastructure that facilitate the search for, and exchange of, information regarding real estate. The Zillow CP is represented by a website that provides its users access to various real-estate tools such as property search, extensive information regarding properties (including information about location, trends, photos, etc.) mortgage information (rates, calculators, etc.), a knowledge repository about real-estate transactions (best practices), communication tools (forums and a directory) and a help feature on how to use all of the various tools. Zillow uses a mash-up architecture to pull information from multiple sources and make it available to its users. The information aggregated by Zillow comes from a variety of public and private sources including government institutions (assessor’s office), real-estate intermediaries, and prosumers (individual users of Zillow).

Based on this aggregated information, Zillow employs a proprietary algorithm to calculate a “Zestimate” – an estimate of what a property is actually worth. This, along with other pertinent information is displayed conveniently in a Geographic Information System (GIS) mash-up. Individual users can add value and co-create by freely updating information about a property, its location, or by contributing to the real-estate transactions knowledge-base and forums. This information freely provided by private users allows Zillow to calculate a more accurate estimate of a property’s value and also provide pertinent ancillary information regarding a specific property or the process of real-estate transactions in general. Furthermore, input from users and partners has

led to new features of the CP platform such as the home improvement section and the “for rent” feature that enables Zillow users to locate rental properties.

FINDINGS

Co-creation Platform Roles

Consistent with the definition of CPs, Zillow is an IT enabled collection of tools, processes, and information that supports and enhances the activities performed by an actor in pursuit of a goal and that generates value-in-use through the encounter process between actors within the boundary of the platform. Zillow is the focal actor in an actor network of entities that are aligned around the common interest of real-estate and the real-estate transaction process.

Zillow provides the infrastructure and tools that enable co-creation and by aggregating information from multiple sources and using that information in a proprietary algorithm to arrive at a more accurate estimate of property value. The Zillow.com artifact is positioned in the network as the central and indispensable actor that is critical to the stabilization and successful operation of the network.

Zillow accommodates multiple roles for the heterogeneous actors in the Zillow network. These roles are outlined in Figure 2.

- Seller – interested in obtaining the highest price for their property based on an accurate portrayal of its features. Zillow provides this role with price information based on assessor and market estimates, as well as an aggregate Zestimate value of the property. Zillow also provides tools for listing and advertising the properties as well as forums, guides, and discussions about the property sale process.
- Buyer – interested in finding a property that satisfies their requirements. Accurate information is paramount for this role and the CP reduces many of the transaction costs related with real-estate transactions. Zillow provides information about properties that are for sale, Zestimates of property value, information about the neighborhood, and home purchasing tips and success stories. Other important resources are a marketplace for mortgages, a directory of real estate professionals as well as a blog and guide about real estate purchasing and investment.



Figure 2: Value Co-Creation and Exchange

- Updater – interested in accurate information about his or her property or those of properties in areas of interest. The updater may also be an active user in the construction and continual co-creation of the real-estate transaction knowledge repository such as actively participating in forums and discussions, answering or asking real-estate related questions and, in general, being an active user of the CP.
- Seeker – individuals interested in obtaining information and knowledge about particular properties, neighborhoods, communities, etc., but do not necessarily contribute information to the platform.
- Government agency – this actor is a partner in co-creation by providing public real-estate information.
- GIS providers – provides geographical mapping solutions and location specific information.
- Advertisers – provides information and access to real-estate related products and services.
- Other supporting actors – actors that provide ancillary services or information on the CP including financial or economic data.

An interesting feature of the Zillow platform is that these roles can dynamically change as users move from one role to another. For example, an updater possesses current information about real estate, but has no immediate intention of engaging in a real estate transaction. When a transaction becomes urgent, they may change their role to that of a seller or buyer (depending on circumstance). Also, sellers can become buyers of real estate or buyers may become sellers.

...I have used Zillow as a seller twice and as a buyer once. I now use it mainly to time my purchase of some rental property when I feel that the numbers support the investment (Zillow user)

The first four roles (sellers, buyers, updaters, seekers) are usually represented by individuals that engage the CP for personal purposes. The remaining roles are typically organizations some of which may have contractual agreements with the CP to provide various services.

Value Co-Creation

The various roles accrue different benefits and costs when engaging in the co-creating behavior.

These different benefits and costs lead to different value propositions for each individual role that actors can take in a CP. The value proposition of a CP lies in both the actor created content and in the use of that content. The dynamic of value creation is a cyclical process of content and value creation and content and value consumption. Economic value describes one type of value that an individual obtains from a social and exchange relationship [4, 11, 9]. One type of economic value is represented by the financial rewards obtained from engaging with the CP. Another type of economic value is one that allows the individual to accomplish his or her goals with fewer resources – time, effort or money. This value is of utilitarian type [2, 10] and reflects the desire of an individual to accomplish a goal oriented activity in the most efficient and effective manner. The CP enables actors to obtain economic value by providing research tools, access to relevant and timely information and a forum for connecting buyers and sellers of properties.

I sold high and bought low twice during the bubble thanks in part to the access to public records that Zillow provides and their market analysis (Zillow user).

No cost of any kind [for using Zillow].....small time spent for lots of information that I do not have to get information from multiple sources anymore (Zillow User).

Thus, we propose:

P1: As a result of their participation in the actor-network, actors derive economic value from their interactions with the co-creation platform.

Intrinsic value is a type of value that results from activities that are self-satisfying or self-fulfilling and that lead to a greater sense of well-being [12]. Autonomy is a type of intrinsic value [7] that describes an individual's ability to determine their own path and make decisions without undue external influence. CPs enable individual autonomy by providing access to information and tools that allow individuals to bypass intermediaries which may desire to influence their actions.

Zillow has made me trust my personal judgment more than any professional in the industry trying to sell me something. That is very valuable. I can do my own research and come to my own conclusions without the benefit of their advice (Zillow user).

Thus, we propose:

P2: As a result of their participation in the actor-network, actors derive intrinsic value from their interactions with the co-creation platform.

Hedonic value [2, 10] is value that arises from the experiential consumption [1] of the interaction with the platform and focuses on non-utilitarian aspects such as emotional content, feelings, enjoyment and fun. In the case of CPs, this type of value is exhibited when individuals use the platform for the enjoyment of the activity itself without regard to the utilitarian types of value.

I like using Zillow to learn more about neighborhoods and the people that live there. Sometimes I browse in my own community, other times I explore neighborhoods in places that I have lived or would like to live (Zillow user).

Thus, we propose:

P3: As a result of their participation in the actor-network, actors derive hedonic value from their interactions with the co-creation platform.

Katz and Shapiro [13, 14, 15] in describing the “network effect” phenomenon, suggest that the value derived from interaction with a network is positively correlated with the size of the network. In the case of CPs, as the number of actors (prosumers and supporting actors) increases, more opportunities to obtain the various types of value are realized from the interactions with the CP.

I just think there's opportunity for agents to be the local authority on their community and using Zillow's massive market reach is a great way to do it (Zillow user).

...help came from many agents....[and] help also came from a number of other non-agents in the way of giving us strength in knowing we were not alone" (Zillow user).

Thus, we propose:

P4: The network effect increases opportunities to co-create value through interactions with the co-creation platform.

DISCUSSION

The objective of this study was to begin to develop an in-depth understanding of the new phenomenon of IT Enabled Co-Creation Platforms by examining the roles of the actors who engage with the platform and how these roles affect the value propositions that lead to the co-creation of value. This paper contributes to the literature by (1) providing an in-depth description and thorough definition of IT Enabled Co-Creation Platforms by using a theoretical lens provided by Actor Network Theory and the co-creation and prosumer literature, (2) identifying the key constructs, relationships, and roles that exist within an actor-network facilitated by the IT Enabled Co-Creation Platform, and (3) offering an empirical examination of a successful IT Enabled Co-Creation Platform resulting in a set of propositions concerning the various value propositions that result from interactions with the platform.

Our theoretical foundation provided the basis for understanding the process by which the IT Enabled Co-Creation Platform facilitates the alignment of geographically dispersed heterogeneous actors around a common interest. It also allowed us to identify the key constructs, relationships and roles that are critical to the successful operation of the actor-network facilitated by the IT Enabled Co-Creation Platform. Concepts of co-creation of value and the rebirth of the prosumer help to explain the mechanism by which the actors, through the use of the platform, create and maintain the various value propositions that sustain the actor network.

Through an empirical examination of Zillow.com, a successful IT Enabled Co-Creation Platform, we were able to apply and examine our theoretical concepts. Our analysis indicated that the generic roles provided by our theoretical foundation have empirical validity and map directly to the Zillow platform. By making use of these roles, this research helps explain the process by which the Zillow platform aligns its users and provides the mechanism for the co-creation and distribution of value throughout the actor network. We offer a set of propositions that illustrate the various value propositions offered by Zillow.

This study contributes to practice by demonstrating the value dynamics that take place for different roles on a CP. Understanding the major value propositions and the types of actors that can interact with a platform allows the founders and creators of CPs to build in features that address the needs of the various actors that engage the CP.

As with any research activity, some limitations of our research should be acknowledged. Our data analyzed a single case; therefore, the results may not be gen-

eralizable directly to other settings. That having been said, we do believe that the results presented in our paper are strongly grounded in the research setting and represent accurate interpretations of the gathered empirical data.

We encourage future research to apply the concepts introduced by this paper in other co-creation platform settings to determine if our findings are supported in additional contexts. Future research should investigate additional CP types that have different purposes and thus may have a different role set and value dynamics. Another fruitful area of research could investigate the antecedents of value generation on CPs by looking at various incentives that motivate individual actors in creating and consuming value while interacting with a CP. To further investigate the concepts presented in this paper, future research could implement a quantitative investigation of the phenomena. While our case study provided an in-depth look at a specific setting, a survey methodology could investigate the stability of the constructs in multiple settings.

CONCLUSION

Innovative companies are leveraging the exponential growth and exceptional reach of the Internet and Web 2.0 technologies by developing IT Enabled Co-Creation Platforms that facilitate the co-creation of value by providing the tools, processes and information that is used by a group of interconnected, heterogeneous actors to create value for themselves and for other actors in the network. Zillow.com is an exemplary example of an IT Enabled Co-Creation Platform that has successfully aligned a group of actors around a common interest in real-estate by providing the mechanism for the co-creation of various value propositions. This research provides insight into this new business model and the exciting future of online services where value is co-created by the actors who use them. This mutually beneficial interaction and value creation activity is the foundation on which many of the fastest growing web-based enterprises will build their success.

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AUTHOR BIOGRAPHIES

M. Shane Banks is an Assistant Professor in the Department of Computer Information Systems at Middle Tennessee State University. Dr. Banks' research interests include IT-enabled value creation, online social media, healthcare information systems, and IT-enabled social enterprises.

William J. Kettinger is Professor and FedEx Chair of Excellence in the Department of Management Information Systems at the University of Memphis. Dr. Kettinger's research interests include digital business strategy, IS service quality, strategic information management, IT-enabled platform organizations, IT-enabled control of autonomous professionals, and process redesign.

Colin G. Onita is an Assistant Professor of Accounting Information Systems in the George W. Daverio School of Accountancy at the University of Akron. Dr. Onita's research interests include IS strategic and tactical issues, online social networks, IS services, and medical information source choice and usage.