The effects of disruptive communication on user engagement in the collaborative consumption model

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November 4, 2015

Abstract

Software is designed to simplify the lives of its users. The rapid growth of social media and the technology industry has foreseen a plethora of different types of software used as a service, with the aim of engaging its users and creating a form of revenue. With an abundance of software applications from which to choose from, this paper looks into the types of communication between the user and the application itself, and how automation and disruptive notification are intertwined to form a successful application.

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1 Introduction

The growth in the exchange of ideas, products, and services through software and the internet has led to the creation of collaborative consumption - an economic model based on sharing, swapping, trading or renting products and services which enables access over ownership[6]. By reinventing not just what we consume, but how we consume, a lot of companies and startups can leverage technology and software in order to generate revenue.Figures 1,2 and 3 illustrate the formation and types of collaborative consumption transactions exist in the economy today[6].

The second decade of the Twenty-first century has seen a rise in the number of startups based off the collaborative consumption model: Uber, a popular online transportation network that replaces taxi drivers with an on-demand part-time driver is an example of such a company, it uses the collaborative consumption model as its entire business framework. There have since been a surge of various startups using the same business model but offering different services, whether it be an on-demand tailor, masseuse, delivery-boy. The possible outlets for a company using a collaborative contribution model are immense. However, why is it that not all of these ventures are successful?

TaskRabbit is a peer-to-peer startup that allows users to find people in their neighborhood willing to carry out a task. From a financial standpoint they have managed to procure $37 million in funding, has strong investor backing, and are a strong contender within the peer-to-peer economy. College Labor is a similar startup that competes with TaskRabbit by outsourcing labor, however, it doesnt have the same dominance of the market place as College Labor. Both startups use the same business model where users advertise tasks that other users can complete to earn money. However, one is more popular than the other and thus able to make more revenue and claim market power. The same pattern has continued amongst many startups in the software industry and begs the question as to why one succeeds while other do not. With so much funding going into peer-to-peer companies, where only a few manage to gain economic traction among a high failure rate, it becomes pertinent for venture capitals to understand the attributes that build a successful peer-to-peer startup.

This paper investigates the different features and characteristics of software application and the way they affect user preference and promote collaborative consumption. By determining which features of user-

software interaction generate more user engagement, entrepreneurs can use this study to find the optimal balance between preference and performance when designing software for the collaborative consumption model.

1.1   Background and Motivation

Economically developed countries have become increasingly dependent on software in the last couple of decades?. From the alarm clocks that wake up 9-5ers in the morning to the social media and telecommunication outlets we use to communicate with people in our daily lives. Software is everywhere, it provides an effective interface between the user and the electronic devices we rely on so much. Society is moving to a world that is solely run on software, even for the most menial jobs as it simplifies daily tasks to allow the consumer to achieve more and be effective with their time.

The growth of the internet has helped expedite the dependence on technology. Markets have shifted to a technological medium. Basic trading, accounting, and organizational logistics have all become contingent on softwares ability to provide information and do the necessary calculations. The growth in the demand and dependence of online software has foreseen the creation of the marketplace of software that is designed to provide services to its users.

Google is an example of company that produces software that provides a service to its users. What started off as an online search engine developed into an internet mogul, which provides electronic messaging, mapping, and a plethora of other business solutions. There are also companies such as Facebook and Twitter that have utilized the power of software, harnessed the connectivity of the internet to create profitable companies whose goal is to connect people from all over the world [13]. A world where everyone can share news, ideas, and local knowledge - all in the pursuit for public good.
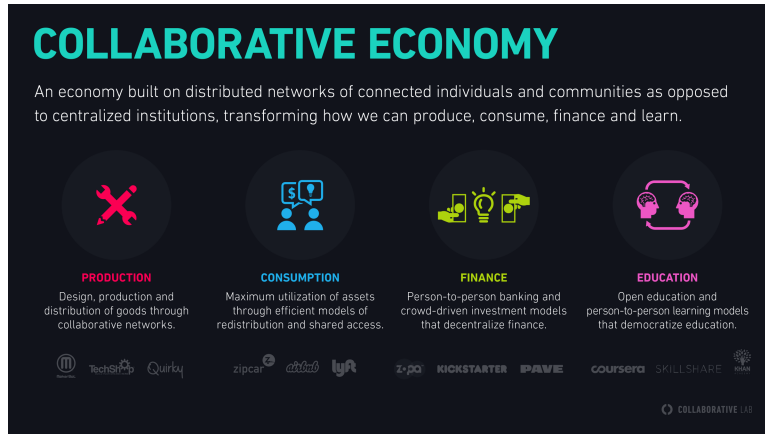
Figure 1: The formation of the collaborative economy.

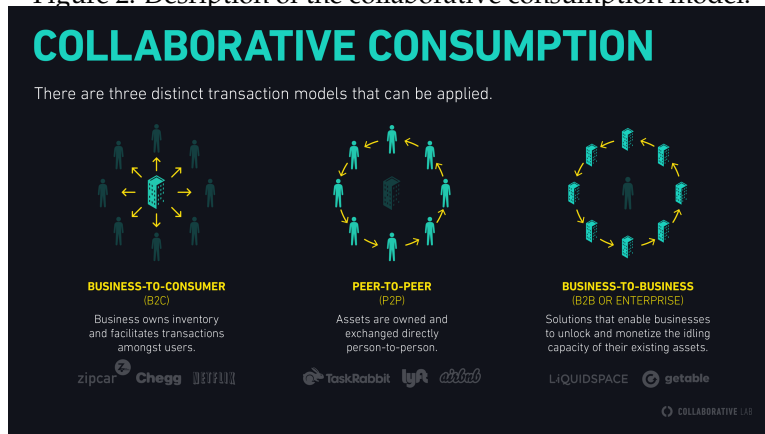Figure 2: Desription of the collaborative consumption model.

Figure 3: The types of transactions with the collaborative model.

2   Related Work

Collaborative consumption and the notion of a sharing economy are very recent phenomenons that have come about through the growth of internet and social media. Despite the recency of both collaborative consumption and sharing economies, there is a lot of research to back their existence. Russell Belk, an economist from York University has published papers on his research on collaborative consumption and its effects on the economy. Belk describes the growth in popularity of collaborative consumption as a consequence of the rate of return associated firms pulled.. With minimal initial investment, Belk describes firms that dominate the sharing economy as money printers[5]. It therefore, isnt surprising that a lot of attention has been going into this model and that research continues in order to understand its long-run implications.

Other work has also focused on the collaborative consumption model and its implications on the economy. Findings this angle of research points out the complications associated with assessing the economy's performance. As sharing spreads, more and more socially productive activity will be off the books. This causes issues since current regulations havent yet adjusted to this current form of disruption. Moreover, there would be a shift in consumer spending which affects existing firms, as they lose consumer spending but are faced with regulatory impositions[7].

3   Methods and Design

This research project would determine these characteristics by building a peer-to-peer labor outsourcing platform. A platform similar to that of TaskRabbit and College Labor, but the exception being that it is limited to people within the Union College community. Moreover, the platform will be structured in a way where notifications of available tasks between users varies from being disruptive to being sought-after. By controlling this variable among the Union user population, and using software analytics to observe the changes in user engagement, we would be able to judge how notifications and user-software interactions come into play within the success of collaborative consumption ventures.

3.1 Application Design

The foundation of the social platform will be based on an online website. Connectivity to cellular and tablet devices will be added through an API to form the overarching platform. The idea of the platform is that users have to register to be part of the network. Once the user is logged in they have the opportunity to look through tasks that other users on the platform have offered. If they find an offer they want to take up, they can connect with the user making the offer. Finally, users who claim tasks are then paid by the platform upon successful completion of the task, and the platform charges the user who initially posted the task to be completed. The users who wish to post tasks they need done can do so by submitting a form with a description of the task and amount of money they are willing to offer. That task is then added to the list of available tasks within the network for other users to take up.

Users would need to be able to communicate with the service in order for it to truly be an online platform. Users can interact with the platform in several ways: they could receive an automated phone call; a descriptive text message; or an informative email. These options are what would be classified as disruptive communication as they disrupt the user from their current state. Users can also have the option of interacting with the platform online, through a computer, cellular device, or tablet. These forms of communication would be classified as sought-after and non-disruptive as it would be up to the user when to engage with service.

Interactions with the service happen under two different circumstances – on one hand, users will have to be notified whenever another user has chosen to take up their offer, however, such notifications are results from user engagement rather than stimulants of user engagement; on the other, the notifications users receive when new tasks become available is a form of interaction that stimulate user activity. By classifying each of the possible forms of task notifications, and collecting data on each tasks user responses, analysis could be conducted to determine the optimal form of interaction.

3.2 Data Collection

Users have to register before being granted access to the services on the platform. Registration is one of the most crucial steps of this experiment. Users would have to be split up into 0 groups based on the type

of notifications they would receive upon a new task in the system. One group only receives automated phone calls, the other only receives text messages, the other only receives email, and last group would be the neutral group, where users wouldnt receive notification, but would have to independently look up offers online. Analytical and statistical software will be implemented in the experiment. Each control group would be assessed using several metrics that assess user engagement.

The investigation would have to collect demographic information about our users. Information such as age, year on campus, student or faculty etc. During registration, they would be automatically placed within a control group. Such information would be vital in the analysis of a users demographics in relation to their activity. Furthermore, such analysis would help deter arguments that a potential skeptic may have.

3.3 Evaluation

Once the system has been built and implemented, its then be time to begin evaluating the project. There would initially need to be an adequate time frame between deployment and evaluation to allow users to register, start using the system, and the system to collect sufficient data.

To begin with, it is important to determine how many users responded to the offers made on the platform. By determining the number of responses to tasks per control group, and comparing that to the number of accepted offers on the entire system, we would be able to assess which form of notifications stimulated user engagement and to what degree.

Additionally, it would also be important to determine the number of completed tasks per control group. This is an important aspect to factor into the evaluation as users may respond to offers but not fully go through with it, essentially resulting in a failed response to the task.

Another way of evaluating is by having users responding to a survey near the end of the experiment that asks users what they thought about the systems notifications. By assessing their opinion of what worked and what didnt, we would have additional information to include in our results before coming to a conclusion.

4   Conclusion

The final product of this thesis aims to have a fully functioning peer-to-peer labor outsourcing application that has the perfect balance between user preference and performance. The product will use the results from the analysis of the different forms of user-system interaction, in order to promote maximum user activity. Ideally, the results from the final applications would have the features and characteristics to challenge TaskRabbit and other labor-outsourcing applications in an expanded user base.

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