

Online buying behavior: a transaction cost economics perspective

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Abstract

Using a transaction cost economics perspective, this paper presents a model for understanding consumers' on-line buying behavior. An empirical study was conducted in Singapore to test the model. The results indicate that consumers' willingness to buy online is negatively associated with their perceived transaction cost, and perceived transaction cost is associated with uncertainty, dependability of online stores and buying frequency. When consumers perceive more dependability of online stores and less uncertainty in online shopping and have more online experiences, they are more likely to buy online. Implications of the results are discussed.

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1. Introduction

The Internet has developed into a dynamic virtual medium for selling and buying information, services and products. The phenomenal growth and rising popularity of the Internet and the World Wide Web (WWW) have attracted consumers and businesses to leverage the benefits and advantages brought on by new technology. The International Data Corporation (IDC) estimated that Internet users in Asia, excluding Japan, will increase from 94 million in 2001 to 291 million by 2006 [1]. Nua.com [2] reported that the number of people online in the Asia/Pacific region has reached 187.24 million as of September 2002.

The Internet exerts an increasingly strong influence on people's everyday life. The growth of interest in the Internet as a shopping and purchasing medium is fascinating for practitioners and researchers alike. Its rapid growth poses intriguing questions for academic research. Some researchers proposed that the consumer's own characteristics play an

important role in his/her propensity to engage in Internet transactions [3,4]. Steinfield and Whitten [5] suggested a greater chance for the combination of the Web plus physical presence to capture business than the Web-only presence because they can provide better pre-purchase and post-sales services to lower consumer transaction costs and build trust in Web stores. Others speculated on the critical role of trust in stimulating consumer purchases over the Internet [3,6,7]. Brynjolfsson and Smith [6] pointed out that branding and trust remain important sources of heterogeneity among Internet retailers.

As a new channel for marketing, the Web is capable of accommodating various kinds of products and services. However, online retailers revealed that people browse the Internet more for information than for buying online [8] and that they feel it is difficult to enjoy shopping online [9]. Johnson [10] pointed out three barriers to online shopping, i.e. purchase failures, security fears, and service frustrations. Hoffman et al. [7] also highlighted that the reason more people have yet to shop online is due to a fundamental lack of faith existing among most businesses and consumers on the Web.

This study examines online buying behavior using transaction cost theory. Specifically, we examine: (1) what

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factors are associated with transaction cost when considering purchasing something online?; and (2) to what extent does each factor affect transaction cost? Results from this study will help determine the applicability of the transaction cost economics (TCE) model in explaining consumers' online buying behavior.

The objectives of this study are:

1. to explain consumer's online buying behavior from the perspective of TCE theory based on three dimensions, i.e., uncertainty, trust and buying frequency;
2. to verify the TCE model by analyzing field data obtained in Singapore; and
3. to examine whether the TCE model is valid for samples collected through two different sources (online ads and emails).

In summary, this study extends previous research in the following ways. First, it expands on the list of antecedent variables affecting transaction cost. Second, previous research has traditionally involved Western samples. By collecting data from Singapore, this research examines the applicability of the TCE model in a non-Western context. Third, the TCE model is examined using data from two sources, thereby providing greater confidence in the results.

2. Literature review

A transaction is a process by which a product or service is transferred across a technologically separable interface [11]. In classic economic theory, it is assumed that information is symmetric in the market and the transaction can be executed without cost. In reality, however, markets are often inefficient. In order to proceed with a transaction, consumers must search for information and monitor the ongoing process to ensure a favorable deal. The costs involved in such transaction-related activities are called transaction costs.

Transaction cost economics (TCE) is most commonly associated with the work of Oliver Williamson [11–14]. Rooted in the economic theory, TCE theoretically explains why a transaction subject favors a particular form of transaction over others. The basic principle of TCE is that people like to conduct transactions in the most economic way. Williamson [14] assumed that firms pursued profit maximization, and that profit maximization required costs minimization. Implicitly, TCE is an equilibrium theory that assumes rationality on the part of owners and/or managers. Williamson described production cost as being similar to the cost of building and running an "ideal" machine, while transaction cost is incurred by departures from perfection, such as friction. In the economic sector, the ideal machine would be a perfectly efficient market [11]. Such a market requires all the information to be available to all parties as well as the presence of perfect competition. Deviations

from the perfectly efficient market result in greater costs to firms when they attempt to buy or sell goods or services. For instance, the lack of information about alternative suppliers may lead firms to pay too high a price for goods, while the lack of information about customers' credit and reputation may result in bad debts. These are elements of transaction cost. Further, Williamson [14] argued that firms want to minimize their transaction costs. Under some circumstances, transaction cost may be lower if the transaction takes place in an open market (market), while under other situations, transaction cost will be lower if managers coordinate the transaction (hierarchy). There are two assumptions underlying the choice between market and hierarchy. They are bounded rationality and opportunism.

Bounded rationality refers to the fact that people have limited memories and limited cognitive processing power [14]. People cannot digest all the information they have and they cannot accurately work out the consequences of the information. For example, no matter how knowledgeable managers are, they are not able to accurately consider all possible alternative courses of action. Meanwhile, they also have to take into account the unpredictable reactions of their competitors. Therefore, reaching an optimal decision may be difficult. As the result, managers tend to satisfy most, rather than all, conditions when making decisions [15].

In contrast, *Opportunism* refers to the possibility that people will act in their own selfinterest [14]. That is, some people may not be entirely honest and truthful about their intentions some of the time, or they may attempt to make use of unexpected circumstances that gives them the chance to make the most off another party in a transaction.

These two assumptions represent somewhat of a departure from standard economic models, but not a terribly dramatic one [14]. People are still assumed to be rational, in the sense that they want to maximize the profits of the firms they manage, but there are limits on their ability to make a truly rational decision to achieve this goal. Likewise, self-interested behavior is assumed in traditional economic theory. Guileful behavior, as Williamson [14] put it as "human nature as we know it", is not unexpected.

The real illuminating power of TCE comes from the three dimensions or variables that are employed to characterize any transaction. They are frequency, uncertainty and asset specificity. Transactions can be rare or frequent; have low or high uncertainty; or involve specific or non-specific assets.

Frequency: The effect of frequency on transaction cost is very strong. A firm is not likely to have strong justification for having "in-house" provisions of a good or service that is rarely used. For example, most firms will not set up their own management consultancy department because of the infrequent usage of such services. If a firm decides to set up its own consultancy service, it would have to try selling its services to others when it is not serving its own firm. But why should we expect such an in-house consultancy service to be able to perform better than professional consultants? In TCE, this firm is expected to outsource its consultancy

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