**PHD Proposal Note**

Customer lifetime value (CLV) is a dynamic mathematical concept that is gaining increasing importance as a marketing metric in both academia and practice (Gupta, Sunil, 2006). The CLV model refers to how relationships between buyers and sellers (often referred to as “dynamic love”) can be maintained over time. The three most important variables that impact CLV are customer loyalty, trust, and customer retention (Furchter, Sigue, 2009).

However, there is a significant gap in academic research with respect to this model, particularly in terms of how CLV can be maximized in the face of differences in firm type, industry, and culture. The characterization process related to CLV aims to investigate the academic perspective and rebuild the model so that it can be applied to more dynamic marketing situations. This study will focus on the following three main parameters that affect dynamic love between seller and buyers, and that thus should be considered when formulating marketing strategies.

The first parameter is the firm type; that is, whether firms are business-to-business (B2B) or business-to-consumer (B2C) (Lacey, Morgan, 2009), because the marketing strategy must be tailored to the type of firm in order to build customer loyalty. The firm type, or market orientation, also has an impact on competitors’ actions, which means that even in the face of high CLV, competitors strive to equalize market terms for customers (Kholi & Jawrski, 1993). The differences in attitude between the two firm types will affect customers’ loyalty, trust, and equity. Thus, it is important to include this parameter in the model (Furchter, Sigue, 2009).

The second parameter is the type of industry. This can be divided into high-technology products, consumer products, and service products lining by green environment production. Though there are a number of marketing theories focusing on these industry types, academic articles that compare industries in relation to CLV are lacking. Thus, it is again important to integrate this parameter into the model.

The third parameter is culture (Hostede, 2010). Based on Hofstede (2010), cultures can be characterized based on their respective levels of individualism, long-term orientation, masculinity, uncertainty avoidance, and power distance. Extant CLV research has overlooked Hofstede’s (2010) cultural components, especially the relation between trust and customer attitude in the context of uncertain situations and the degree of collectivism present in a culture.

Several articles have investigated and developed a CLV model and examined how CLV can be maximized, as well as the challenges and negative aspects linked to such maximization. For example, Furchter, Sigue (2009) explained that maximizing CLV does not always enhance financial performance in the long-term, since customer retention can entail a high rate of investment. Thus, although we intend to provide a new characterization of CLV, there is still a need to use a recognized measure, such as innovation, to understand CLV so as to enhance optimization and mitigate the challenge related to a high rate of investment.

Abundant research over the past decade has considered product innovation and creativity of marketing plans as a lever for increased profit (Baker, 2014). Firms that implement innovation in their products and organization can improve their performance in terms of market share, profitability, and new-venture success (Im, Workman, 2014). However, the relation between CLV and innovation is still not fully understood in terms of how it affects firms’ profit maximization. Thus, a central contribution of this study is to shed light on the impact of this relation. Because product innovation can help to enhance customer trust in the firm (Saunila, Sanna, 2014), we can assume that retaining customers based on new innovations will reduce the rate of investment and increase profits in the long-term.

Extant studies have also investigated CLV in terms of relations between customer satisfaction, customer offer score, customer retention, customer equity, and return on investment (ROI) (Kumar, 2006). However, these factors are all impacted by innovation.

Another important aspect to be considered in formulating the model is the marketing mix (price, promotion, place, and product). For example, do online marketing approaches better optimize CLV compared to traditional approaches? Does following a pricing strategy always lead to enhanced CLV? Marketing mix modeling can enhance the ROI in specific circumstances (Cain, Kitchen, 2010). Consequently, does improving the CLV model by incorporating the market mix maximize profitability?

Forecasting methods are widely used in production, marketing, and the supply chain in order to reduce costs or enhance firm performance (Armstrong, 1987). From a marketing perspective, there is an association between CLV and forecasts, especially with regard to OEM products and innovative products, since firms can use forecasts to better manage CLV processes, while CLV models can provide superior forecasts and contribute to new product success. However, this relation has not been widely explored in term of its antecedents and consequences for CLV. Thus, this article’s in-depth investigation of forecasting represents a further contribution to the field.

A final aspect to consider pertains to COVID-19. This global threat has deeply affected firms’ attitudes and marketing strategies, and also requires significant marketing agility in order to adjust firm strategies (Hongwei, 2020). Thus, COVID-19 has the potential to negatively impact customer satisfaction, customer ethics, and customer equity, and leads to great uncertainty regarding firm strategy decisions with respect to CLV. For example, should firms retain customers whose equity has declined due to credit issues?

**Research Questions**

* Does product innovation positively impact CLV and result in high profitability?
* Does market strategy innovation positively impact CLV and result in high profitability?
* CLV characterization:
	+ Does the CLV model vary depending on whether the firm is B2B or B2C?
	+ Does the CLV model vary depending on whether the firm offers high-technology or service products?
	+ Does the CLV model vary depending on customer culture?
* Does CLV combined with the innovation effect positively impact firm profitability?
* Does CLV combined with forecasting positively impact firm profitability?
* Is CLV negatively impacted by COVID-19?

**Optimal Policy**

In this research we will use dynamic optimal mathematical theories to examine the relation between CLV and other parameters. The minimum and maximum of a real function are used to optimize the case via formulization (Sethi, Thompson, 2006).

**Proposed Model**

