

The Effects of Commensurability and Expertise on Economic Value:  
The Case of Platform Organizations

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**TABLE OF CONTENTS**

**ACKNOWLEDGEMENTS ..... iii**

**ABSTRACT ..... ix**

**LIST OF TABLES ..... xi**

**LIST OF FIGURES ..... xii**

**INTRODUCTION..... 1**

**ECONOMIC VALUE..... 8**

BACKGROUND..... 8

FOCUSING ON ECONOMIC EXCHANGE VALUE..... 11

**SEARCH, EXPERIENCE, CREDENCE ATTRIBUTES ..... 13**

**PLATFORM ORGANIZATIONS ..... 16**

RESEARCH TRADITIONS ON PLATFORM ORGANIZATIONS ..... 17

A WORKING DEFINITION: ACCOUNTING FOR DIRECT EXCHANGES AMONG PLATFORM PARTICIPANTS..... 19

**THEORETICAL MODEL: PLATFORM-BASED DYNAMICS AND ECONOMIC VALUE..... 22**

VALUATION IN SOCIOLOGICAL THEORIES OF MARKETS ..... 22

A PROPOSED MODEL ..... 27

*Platform-designated qualification levels.* ..... 30

*Sellers’ and buyers’ institutional contexts.* ..... 35

*Buyers’ expertise about the platform.* ..... 39

**METHOD ..... 42**

CHANGES IN THE COFFEE INDUSTRY: SPECIALTY COFFEE MARKET ..... 43

CUP OF EXCELLENCE (COE)..... 46

DATA COLLECTION ..... 47

<i>Online competition and coffee auctions</i> .....	47
<i>Sample</i> .....	51
MEASUREMENT.....	52
<i>Dependent variable</i> .....	52
<i>Independent variables</i> .....	52
<i>Goods' characteristics</i> .....	53
<i>Platform-designated qualification level</i> .....	55
<i>Platform tenure</i> .....	55
<i>Sellers' institutional contexts</i> .....	55
<i>Buyers' institutional contexts</i> .....	56
<i>Buyers' experience about the platform</i> .....	57
<i>Control variables</i> .....	58
DATA ANALYSIS.....	59
<i>Testing platform-designated qualification level</i> .....	59
<i>Testing the influence of contexts</i> .....	61
<i>Testing buyers' expertise about the platform</i> .....	61
<b>RESULTS</b> .....	<b>63</b>
PLATFORM MEDIATION EFFECTS.....	65
PLATFORM TENURE EFFECT.....	66
SELLERS' AND BUYERS' INSTITUTIONAL CONTEXTS.....	67
BUYERS' LEVEL OF EXPERTISE ABOUT THE PLATFORM.....	70
<b>DISCUSSION</b> .....	<b>72</b>
VALUE CREATION IN INTER-ORGANIZATIONAL EXCHANGES.....	75
PLATFORM ORGANIZATIONS AND MARKETS.....	78
EXPERIENCE PRODUCTS AND THEIR QUALIFICATION.....	81
LIMITATIONS AND FUTURE RESEARCH.....	83
<i>Ontological assumptions of value</i> .....	84
<i>Data Sources and Measurement</i> .....	85
<i>Correlations no Causation</i> .....	88
<i>Generalizability</i> .....	89
<b>CONCLUSION</b> .....	<b>92</b>
SUMMARY OF CONTRIBUTIONS.....	92
<b>REFERENCES</b> .....	<b>96</b>
<b>FIGURES</b> .....	<b>115</b>
<b>APPENDIX</b> .....	<b>128</b>

APPENDIX A. CUPPING RULES AND PROTOCOLS CUP OF EXCELLENCE® ..... 128



## **ABSTRACT**

How market actors determine value has been a fundamental question since the early years of our economic history. Researchers across different disciplines have shed light on key aspects of valuation processes, yet it is not very clear how reference points against which actors compare goods are formed and impact economic value. Drawing mainly from sociological theories of value and institutional theory, I examine the role of platform organizations in the valuation of a particular type of good called experience goods. Platforms are defined as organizations that control direct exchanges among actors (i.e., Google, Apple, newspapers, universities). This way of organizing exchanges is becoming pervasive thanks to the explosion of the Internet and overall global connectivity. Information economists define experience goods as those that require a direct experience to judge their quality level (i.e., wine, movies, and restaurants, among others). I propose that among other characteristics, platform organizations develop two specific dynamics that are fundamental for economic exchanges to become self-reproducing and therefore to create markets. These two dynamics refer to the capacity that platform organizations have to develop valuation frameworks and their capacity to increase participants' levels of expertise through platform participation.

To advance knowledge on goods valuation and the creation of stable and self-reproducing economic exchanges through the creation of a platform, I analyze the role of a particular platform organization created to exchange a specific experience good: specialty or gourmet coffee. I utilize the information from coffee competitions and e-auctions of some of the finest unique coffees in the world. I analyze this information

using mixed-effects and generalized least squares models, accounting for country and year to gauge the proposed mediator effect of commensurability and the moderator effect of buyers' level of expertise about the platform. The results generally support the hypotheses here developed. I found that platform-designated qualifiers partially mediated direct relationships between goods' characteristics and economic exchange value. The effect of tenure of the platform was also positive and significant. Although the interaction effects of contextual variables were significant, their interpretation was less clear. Finally, the interaction effect of buyers' level of expertise about the platform was significant and positive.

I make four contributions. First, I add insights to the perspective that valuation in markets is a fundamental process of social and economic organization. In particular, I show how at the organization level sellers and buyers can interact following certain established rules by a neutral organization so that socio-cognitive devices that situate the different products in relation to one another can be established. Second, this dissertation studies the case of platforms as mechanisms that establish systems of valuation and create spaces in which market actors can increase their expertise, two roles that have not received much attention in the literature on platforms. Third, this dissertation examines the influence of broader contextual forces such as the importance at the country level of the particular product transacted in the platform. My fourth and final contribution refers to a better understanding of product qualification processes using the case of coffee as an experience product. I show that the platform provides the common framework so that both sellers and buyers compare and hence qualify products exchanged in the platform.

**LIST OF TABLES**

<i>1. Different typologies of value.....</i>	<i>107</i>
<i>2. A timeline of events in the coffee market from 1950 to 2005.....</i>	<i>109</i>
<i>3. Different categories of coffee.....</i>	<i>111</i>
<i>4. Certifications and rating systems in the coffee industry.....</i>	<i>112</i>
<i>5. Information available from coffee auctions at January 2013.....</i>	<i>114</i>
<i>7. Descriptive statistics.....</i>	<i>120</i>
<i>8. Correlations.....</i>	<i>121</i>
<i>9. Results of mixed models for mediation effect.....</i>	<i>122</i>
<i>10. Results of moderation effects platform tenure.....</i>	<i>123</i>
<i>11. Results of moderation effects sellers' institutional contexts.....</i>	<i>124</i>
<i>12. Results of moderation effects buyers' institutional contexts.....</i>	<i>125</i>
<i>13. Results of moderation effects Buyers' expertise on the platform.....</i>	<i>126</i>
<i>14. Summary of hypotheses and statistical evidence.....</i>	<i>127</i>

**LIST OF FIGURES**

*1. Theoretical model: the effects of platform organizations' dynamics on exchange value..... 115*

*2. Value chain, coffee markets ..... 116*

*3. Variables included in the model ..... 118*

*4. Ontological assumptions when studying value ..... 119*

## CHAPTER 1

### INTRODUCTION

Understanding what makes a good valuable is a critical question in research areas such as economics (e.g., Menger, 1981; Neumann & Morgenstern, 1953); marketing (e.g., Bowman & Ambrosini, 2000; Flint, Woodruff, & Gardial, 2002; Priem, 2007; Sinha & DeSarbo, 1998; Zeithaml, 1988), strategic management (e.g., Barney, 1991; Brush & Artz, 1999; Kraaijenbrink, Spender, & Groen, 2010; Porter, 1985; Priem & Butler, 2001); sociology and organizational theories (e.g., Beckert & Aspers, 2011; Khaire & Wadhvani, 2010; Zajac & Westphal, 2004; Zuckerman, 1999), among other research streams. There are therefore many different interpretations to the word "value" and what it represents in economic exchanges. Underlying common topics across the different interpretations of value are that value implies an interaction between actors and goods (i.e., product or service), which most of the time are desirable. Value is also the result of an evaluative judgment made by actors; this evaluative judgment usually implies that actors compare the good (object of evaluation) against a set of standards, norms, criteria, goals, or ideals that serve as a basis for such valuation.

Despite this wide interest in understanding value, the mechanisms that drive perceptions of value are not very well understood. For instance, it is not very clear how reference points against which actors compare goods are formed and what their impacts are on consumers' willingness to pay. Cognitive psychologists have advanced value frameworks in which the perceived values of different alternatives are evaluated relative to some reference point (i.e., status quo) (Kahneman & Tversky, 1979, 1984).

Nevertheless, these frameworks have not focused on an understanding of how the reference points are established. Some recent studies relying on sociological theories of social construction of meaning and institutional theory advocate a better understanding of social dynamics that would result in the creation of common criteria for judging individual products (Beckert & Aspers, 2011; Callon, Méadel, & Rabeharisoa, 2002; Karpik, 2010; Khaire & Wadhvani, 2010; Zajac & Westphal, 2004). The main thesis of these works is that markets are social structures of exchanges; as such, perceptions of value are the result of not only objective processes (such as maximization of individual utilities as economics would suggest), but also frequent social interactions between different actors with multiple interests and experiences (e.g., Fligstein & Dauter, 2007; White, 1981, 2002). Scholars in this research tradition continue to argue that with the passing of time, these social interactions will create common understandings that enhance comparison among goods and hence trigger processes of valuation (Callon et al., 2002; Karpik, 2010; Khaire & Wadhvani, 2010).

This dissertation therefore aims at a better understanding of how market participants, through social interactions, influence value perceptions of goods. To do so, I study the particular context of what is referred to as experience goods. Depending on the discipline, goods can be classified in many different ways according to different criteria (tangibles vs. intangibles, fungibility level, hedonic vs. instrumental). Using economics of information, scholars have developed a typology of goods considering the information that consumers use to evaluate their quality. Central to this typology is the concept that goods can show search, experience, and/or credence properties (Darby & Karni, 1973;

Ford, Smith, & Swasy, 1990; Nelson, 1970, 1974). These properties describe the processes undertaken when, if possible, customers assess a good's performance. Search goods are those goods that have attributes that customers can assess by inspection before the purchase (e.g., a dress, a computer, etc.). Experience goods are those goods that customers cannot evaluate by inspection before the purchase but only after the purchase (i.e., canned tuna fish, a movie, a wine). Lastly, credence goods are those goods that have attributes that the average customer may never be able to evaluate (e.g., automobile repairs or medical services, etc.).

I argue that this frame of reference, particularly with experience goods, can cast light on a better understanding of how organizations in a market can affect perceptions of what is considered valuable. Using the search, experience, and credence goods typology, scholars have shown that organizations' efforts and strategies are relevant drivers of customers' perceptions about specific products (Brush & Artz, 1999; Mitra, Reiss, & Capella, 1999; Srinivasan & Till, 2002; Yang & Mai, 2010). This is particularly relevant with respect to the experience and credence goods (Klein, 1998; Srinivasan & Till, 2002). I concentrate on experience goods because for this type of product it is not very clear whether individual preferences or external stimuli are what determine the perceptions of what is valuable.

In particular in this dissertation, I focus on the role of one type of market intermediary in the formation of value perceptions. This market intermediary is what is referred to as a platform. Platforms can be defined as organizations that are located at the intersection of two or more groups of actors in which one of these groups wants to have

access to the other to offer products or services (Rochet & Tirole, 2003; Rysman, 2009). Platform organizations are therefore defined here as organizations that support direct exchanges of goods between two or more groups of actors through a common interface (Hagiu, 2007). Typical cases of platform organizations are software developers, Internet browsers, social media, portals, newspapers, shopping malls, universities, and credit card companies, among others.

With the explosion of information due to the use of technologies such as the Internet and the possibilities of connectivity among actors, there seems to be an increase in the creation of these types of intermediaries (Gawer, 2009a). Platform organizations form a series of communities in which special dynamics such as creation of common knowledge about goods and platform members' expertise start taking place (Bohne, 2011; Boudreau & Hagiu, 2009; Hagiu, 2007). These dynamics represent collective and shared understandings of what is exchanged through the platforms and who participates in such platforms. Yet little scholarly research has been performed on such platform-organization dynamics and their role in the creation of common frames of reference to value goods. This dissertation examines platform organizations' possible role as market creators and more specifically their role in the formation of value perceptions of the products exchanged in a particular market. Specifically, this dissertation addresses one crucial question about value and platform organizations: *to what extent do platform-based dynamics affect the exchange value of experience goods?*

To shed light on this question, I use the specialty coffee industry and in particular the competitive online auctions called Cup of Excellence (COE), organized by the



Alliance for Coffee Excellence (ACE), as an illustration of a platform in a nascent market. I primarily draw from the institutional theory and sociological theories on valuation as the basis for my theory regarding the role of platform organizations in market exchanges. I also draw on relationship marketing to understand how mechanisms related to expertise affect perceptions of value. A relevant theoretical framework that I use to support my assertions is the one proposed by Callon and colleagues and Karpik on valuation of goods with unique and incommensurable quality-based characteristics such as art, movies, popular and classical records, wines, restaurants, novels, doctors, and lawyers, among others (Callon et al., 2002; Karpik, 2010). This theoretical framework aligns with and has the potential to add new perspectives to the understanding of experience goods. Some of the characteristics of these “unique or singular” goods are also present in the experience goods (i.e., comparing different movies, restaurants, music, etc.). This theoretical framework elaborates on two roles that a series of “judgment devices” have in the reduction of uncertainty regarding the quality of the goods and the elaboration of a common frame of reference (Callon et al., 2002; Karpik, 2010). Judgment devices are instruments, similar to institutions but broader in scope, created by actors in the market to increase the understanding and experience of buyers in that market. These devices perform, among others, two roles: increase commensurability among goods and increase trust among market actors. Social capital theories and relationship marketing help us to understand the importance of trust in economic and social exchanges.

The results generally support the hypotheses here developed. I found that platform-designated qualifiers partially mediated direct relationships between goods' characteristics and economic exchange value. The effect of tenure of the platform was also positive and significant. Although the interaction effects of contextual variables were significant, the signs of these variables were not significant in the direction expected. Finally, the interaction effect of buyers' expertise about the platform was significant and positive. With this dissertation, I make four contributions. First, I add insights to the perspective that valuation in markets is a fundamental process of social and economic organization. In particular, I show that at the organization level, sellers and buyers can interact following certain established rules by a neutral organization so that socio-cognitive devices that situate the different products in relation to one another can be established. Second, this dissertation studies the case of platforms as mechanisms that establish regimes of valuation and create spaces for participants to increase their expertise about the platform; these are two roles that haven't received much attention in the literature on platforms. Third, this dissertation examines the influence of broader contextual forces such as the importance at the country level of the particular product transacted in the platform. My fourth and final contribution is a better understanding of product qualification processes, using coffee as an experience product. I show that the platform provides the common framework so that both sellers and buyers compare and hence qualify products exchanged in the platform.

This dissertation proceeds as follows. I first review the relevant literature on economic value and present the definition that I use in this project. I then discuss the

classification of goods attributes based on the amount of information needed to judge quality, search, experience, and credence. I continue with a literature review on platform organizations, and I provide the definition of this type of organization that guided this dissertation. After discussing these two aspects of the context of my research question (i.e., experience goods and platform organizations), I present my proposed model with the suggested hypotheses. Next, I delineate my methods using the specialty coffee industry as an illustration of a market intermediated by a platform organization. Following is an in-depth explanation of how I operationalize platform organization dynamics, and how mixed-effects modeling technique and generalized least squares models assess different interactions among the variables in the proposed models. Subsequently, I present the results organized according to the five hypotheses of my theoretical framework. The dissertation concludes with the discussion and conclusion sections.

## CHAPTER 2

### ECONOMIC VALUE

The question of how markets determine the value of products and services is an often-posed question that has not lost its relevance since it was first posed in the time of Aristotle (Beckert & Aspers, 2011). Since economic trade took off in ancient times, people have faced questions such as, “How much is it?” and “How much is it worth?” The centrality of these questions and the difficulty understanding them has been present throughout the development of human history. Accordingly, in this section, I survey the literature on economic value: specifically, the background and historical development of relevant definitions, to lay the foundation for the definition of economic exchange value used in this dissertation.

#### **Background**

The importance of understanding value was first acknowledged by philosophers such as Aristotle with his ideas about exchange as bilateral process and the difference between use value and exchange value (Beckert & Aspers, 2011; Ekelund & Hébert, 1997). Aristotle’s ideas were expanded upon by the Scholastic School of Thought in the Middle Ages (14<sup>th</sup> and 15<sup>th</sup> century) during which the focus was on trying to understand what a “just” price meant (Ekelund & Hébert, 1997). Throughout the development of classical political economy, with the works of Adam Smith and David Ricardo, the focus was on seeing value of goods as stemming from the transformation of natural assets through labor (Beckert & Aspers, 2011). In an attempt to provide an alternative theory,

economists such as William Jevons, Carl Menger, and Leon Walras introduced the idea of marginal utility, which paved the way for neoclassical economists to anchor value in the sphere of market exchange and in the concept of expected utility (e.g., Friedman & Savage, 1948; Keeney & Raiffa, 1976).

More modern economists and strategic management scholars have added to our understanding of value with an emphasis on competitive dynamics among organizations in an industry (Barney, 1991; Porter, 1985). Not only has value been studied by economists and strategists, but also it has been studied by marketing scholars in the analysis of consumer preferences (e.g., Bolton & Drew, 1991; Bowman & Ambrosini, 2000; Sinha & DeSarbo, 1998; Zeithaml, 1988); cognitive psychologists, with an analysis of choices under risk (e.g., Kahneman & Tversky, 1979); and by entrepreneurship and stakeholder scholars, among others, with value creation not only for businesses but for society in general (Bridoux, Coeurderoy, & Durand, 2011; Freeman, Harrison, Wicks, Parmar, & De Colle, 2010; Lepak, Smith, & Taylor, 2007; Smith, Mitchell, & Mitchell, 2009). Additionally, sociologists and organizational theorists have studied economic value through an emphasis on meanings of goods for actors and on social and institutional structure of markets (e.g., Beckert & Aspers, 2011; Khaire & Wadhvani 2010; Zajac & Westphal, 2004). These are to name but a few of the research streams on value and economic exchanges.

In social life, different forms of value, such as aesthetic value, moral value, and economic value, are simultaneously present (Beckert & Aspers, 2011; Stark, 2009). All these forms of value imply a scale for evaluating the features that each type of value

covers (Beckert & Aspers, 2011). An action may be judged as more or less ethical, an object as more or less beautiful, and a product as more or less expensive. Thus, valuing something has been defined as assessing an object (i.e., product, event, person, etc.) and comparing it according to a scale (Beckert & Aspers, 2011; Verdaasdonk, 2003).

More specifically, economic value in markets has been defined as “the assessment of goods or services in terms of how much money an actor is willing to surrender to obtain property rights to the good in question” (Beckert & Aspers, 2011: 8). A more general definition of economic value comes from Porter’s work on competitive dynamics in which he defines value to be “the amount buyers are willing to pay for what a firm provides them” (1985: 38). Marketing scholars, focusing on a consumer’s perspective, have added the word *perceived* to the concept of economic value to convey “the consumer’s overall assessment of the utility of a product based on perceptions of what is received and what is given” (Zeithaml, 1988:14). According to some authors, this view implies that perceived economic value is a uni-dimensional construct measured simply by asking respondents to rate the value they received in making purchases (Sánchez-Fernández & Iniesta-Bonillo, 2007). However, some scholars argue that economic value is a multi-dimensional construct in which a variety of notions, such as perceived price, benefits, time, different contexts, need to be teased out (for a review see Lindgreen & Wynstra, 2005; Sánchez-Fernández & Iniesta-Bonillo, 2007). These different conceptualizations of value indicate that there have been many attempts to understand different sub-dimensions or types of economic value (See Table 1 for some examples of different classifications of economic value).

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Insert Table 1 about here  
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### **Focusing on Economic Exchange Value**

Given the complexity and lack of consensus related to the different dimensions of economic value, the purpose of this section is not to provide a thorough explanation of different approaches to the concept of economic value. Rather, the purpose is to point out communalities among major approaches to this concept and to specify the dimension of economic value I will be focusing on. Many of the classifications presented in Table 1 rely on the initial differentiation between used value and exchange value provided by Aristotle. In such classification, used value refers to the subjective evaluation of the benefits of a good, and exchange value is the amount the consumer actually pays (Priem, 2007). Over time, scholars have added other contexts and dimensions of economic value, such as the ones in Bowman and Ambrosini (2000), Priem (2007), Lepak, Smith, and Taylor (2007), and Beckert (2011).

Other common ideas among the different types of economic value are that value implies an interaction between an actor and a good (i.e., product or service). Another idea is that value is the result of an evaluative judgment made by that actor, who is usually referred as to the buyer of a good. Moreover, this evaluative judgment usually implies that the actor compares the good (object of evaluation) against a set of standards, norms, criteria, goals, or ideals that serve as a basis for such evaluation (Sánchez-Fernández & Iniesta-Bonillo, 2007; Verdaasdonk, 2003). These comparative processes do not require

the actor to be aware, nor do they require full information about the evaluation criteria. The result of such an evaluative judgment may be manifested through the formation of an actor's subjective perceptions of a good's benefits (i.e., used value). Another possible outcome might be the actor's willingness to engage in an exchange for such a good, which will involve tradeoffs of his/her resources (i.e., money, labor, time, etc.) for the good (i.e., the exchange value).

In this dissertation, I focus primarily on the exchange value of a good rather than the used value of a good. I define economic exchange value to be: *the relative willingness of an actor to forfeit his/her resources in exchange for a good*. This implies that economic exchange value is related to trade, in which an exchange between resources needs to take place. It also implies that the actor is a person; however, it can also be an organization or any other collective entity. Finally, although related, quality and value are different constructs (e.g., Reeves & Bednar, 1994; Zeithaml, 1988). Here, quality refers to the extent to which a product or service meets and/or exceeds a customer's expectations (for a review on the concept of quality, see Reeves & Bednar, 1994). Economic exchange value, as defined here and in the literature, conveys a tradeoff of "give" and "get" components.

In this dissertation, I approach the question of how it is possible to understand the exchange value of a specific kind of good called experience goods. Goods can be classified in different ways according to different criteria (i.e., tangible vs. intangibles, fungibility level, hedonic vs. instrumental). One such classification relevant to an understanding of evaluative judgments is the classification using the amount of



information needed to form quality perceptions on the good. In the following section, I describe the main tenets of such a framework and some of the empirical research that has been done on it.

### **SEARCH, EXPERIENCE, CREDENCE ATTRIBUTES**

Based on economics of information, Nelson (1970; 1974) pointed out that buyers need different types of information about goods when making evaluations about the expected quality of such goods. For instance, for some goods, the search for information about different options before purchase might be appropriate (i.e., style of a dress). For other goods, it is less likely that the buyer engages in a search for information about different options before purchase because such information might not convey the characteristics of the good or might not even exist. For these types of goods, it is the experience of trying them that will convey the most information (e.g., canned tuna fish). Darby and Karni (1973) added to the classification those goods that the average consumer might never be able to assess, such as in the case of a medical procedure. Based on the distinction of the type of information—the extent to which buyers can assess a good’s performance—search, experience, and credence goods were identified (Ford et al., 1990).

More specifically, “search” is defined as the extent to which information about the good’s attributes “can be accurately evaluated prior to purchase using prior knowledge, direct product inspection, reasonable effort, and normal channels of information acquisition, such as Consumer Reports” (Ford et al., 1990:241).

“Experience” is defined as the extent to which such information “can be accurately

evaluated only after the product has been purchased and used for a period of time which is relatively short in comparison to the product's total-usage life” (Ford et al., 1990:241). Lastly, “credence” is defined as the extent to which it is difficult to “accurately evaluate [a given product] even after the product is used because of the consumer's lack of technical expertise or because the cost of obtaining sufficient accurate information to check the veracity of the claim is higher than its expected value” (Ford et al., 1990:241). Goods may have one, two, or all three of these types of attributes (Ponte & Gibbon, 2005; Srinivasan & Till, 2002). For instance, with coffee, the color of a coffee bean can be considered search attributes, the taste of brewed coffee an experience attribute, and whether the coffee is organic, a credence attribute (Ponte & Gibbon, 2005). Nevertheless, in general, goods can be classified as having one dominant set of these attributes (Klein, 1998). For instance, experience goods are goods whose dominant attributes require the actor to experience the goods to judge his or her preference.

Using the search, experience, and credence goods’ attributes typology, scholars have shown that organizations’ efforts and strategies are relevant drivers of customers’ perceptions about specific goods (Brush & Artz, 1999; Mitra et al., 1999; Srinivasan & Till, 2002; Yang & Mai, 2010). For instance, Srinivasan and Till (2002) found that brand name and product trial increased consumers’ evaluations of experience and credence attributes. However, the same could not be demonstrated for search attributes. This implies that the type of good (i.e., search, experience, credence) might influence the effects of marketing strategies on consumers’ perceptions. In a theoretical article, Klein (1998) argued that the growth of interactive media had the potential to affect the

processes of evaluation of products. She suggested three routes through which experiential goods could be transformed into search goods and therefore reduce the costs of getting information about the product attributes (Klein, 1998: 2000). In a more recent study, Yang and Mai (2010) showed that for hedonic goods traded in markets with network effects (i.e., the value of a product increases with a larger installed base of users), information in the form of reviews of experienced users positively affects the level of trust of current and potential users of the good. This research suggests that goods' attributes and networks of users might interact, affecting buying behavior. Finally, given that there has been an explosion of interactive media such as the Internet, Girard and Dion (2010) tested the nomological validity of the search, experience, and credence framework. These authors found that the framework is still valid. I argue that this classification of goods' attributes, and particularly the case of experience attributes, can provide further insight into how organizations in a market can affect perceptions of what is considered valuable. This is particularly relevant for the experience and credence attributes. I concentrate on experience goods because it is not clear whether individual preferences or external stimuli are what determine the conceptions of what is valuable for this type of product. Moreover, as previous research has shown, there is an increasing interest in understanding how this era of information, Internet and connectivity among consumers might influence their perceptions of goods and hence how these new trends are affecting the capacity of organizations to create economic value. Next, I introduce a type of organization called platform organizations. These organizations are the product of the explosion of information technologies, sophisticated logistics, and potential

connectivity of actors in markets (Zhu & Iansiti, 2012). These novel forms of organizations are affecting most current industries in a number of different and important ways (Gawer, 2009a; Hagiu, 2007; Zhu & Iansiti, 2012).

## **PLATFORM ORGANIZATIONS**

In general, platforms can be seen as building blocks (i.e., products, technologies, services, organizations) that act as a foundation upon which a variety of lower units interact to develop different products, technologies, services, or other organizations (Baldwin & Woodard, 2009; Gawer, 2009a). According to the Oxford English Dictionary, the word ‘platform’ comes from the Middle French phrase *plate-forme*, which literally translates as flat-form or, equivalently, a diagram or a map. In English, it has been used since the early 16<sup>th</sup> century to denote “a raised level surface on which people or things can stand, usually a discrete structure intended for a particular activity or operation” (Oxford English Dictionary). More recently, product development (e.g., Sanderson & Uzumeri, 1995; Wheelwright & Clark, 1992), technology strategy (e.g., Bresnahan & Greenstein, 1999; Brusoni & Prencipe, 2009), and industrial economics (Eisenmann, Parker, & Van Alstyne, 2011; Rochet & Tirole, 2003; Rysman, 2009) have adopted the term “platform” to describe exchanges of goods and information following specific designs (Baldwin & Woodard, 2009). Platforms can also have different contexts. For instance, Gawer (2009b) developed a typology based on the scope of the platforms. In this way, Gawer (2009b: 47) identified four contexts for platforms: within an organization, within a supply chain, within industry ecosystems, and within

markets. Typical types of platform organizations are software developers, internet browsers, social media, portals, newspapers, shopping malls, universities, and credit cards, among other types.

### **Research Traditions on Platform Organizations**

Platforms have thus been used in different ways in previous research. Systems designers and product developers have recognized the opportunities to create complex products using a particular structure of the system that provides a center with core components and a periphery with complementary components (Wheelwright & Clark, 1992). In other words, following this research stream, a platform refers to a system design in which there are core and peripheral components. This research tradition usually locates platforms at the interior of organizations (Gawer, 2009b). On the other hand, technology strategists identify platforms as valuable points of control (and hence revenue creation) in an industry or value chain (c.f., Baldwin & Woodard, 2009; Gawer, 2009b). Within this tradition, competition among platforms thus came to be seen as an important force at the industry level (Eisenmann et al., 2011). Studies of Microsoft and Netscape illustrate contrasting approaches to market leadership (Cusumano & Selby, 1998). Technology strategists define platforms as designs that embody an architecture, “—a design for products, services, and infrastructure facilitating network users’ interactions— plus a set of rules; that is, the protocols, rights, and pricing terms that govern transactions” (Eisenmann, Parker, & Van Alstyne, 2006: 96).

A third tradition using the term platform is in industrial economics. These scholars have recently adopted the term platform to characterize products, services, firms,

or institutions that mediate transactions between two or more groups (Rochet & Tirole, 2003). This research tradition emphasizes the phenomenon of “network effects” (Katz & Shapiro, 1994: 94). Briefly, network effects refer to situations in which “the value of membership to one user is positively affected when another user joins and enlarges the network” (Katz & Shapiro, 1994: 94). Many if not most of the markets with network effects are characterized by the presence of two (or more) distinct sides whose ultimate benefit stems from interacting through a common platform (Rochet & Tirole, 2003).

These markets are called two-sided or when appropriate, multi-sided markets (e.g., Rochet & Tirole, 2003, 2006). Within this research tradition, platform organizations have been defined in different ways. For instance, one of the first definitions refers to a platform as “a firm with a two-sided network [that] serves two distinct types of consumer and the utility of each type is increasing in the number of the other type that can be accessed through the firm’s network” (Schiff, 2003: 425). Evans (2003: 192) argues that platform organizations are present if the following three conditions are present: “(1) the existence of two or more distinct groups of customers, (2) in which members of at least one group wish to access the other group, and (3) where the platform can facilitate that access more efficiently than bi-lateral relationships between the members of the groups.” The success of platform organizations, or the interface in which both or more sides interact, is therefore to “get both sides of the market on board” (Rochet & Tirole, 2003: 990).

Literature on two-sided markets has therefore concentrated on understanding strategies that platform organizations adopt such as price mechanisms (i.e., which of the groups pays?), platform competition (Eisenmann et al., 2011; Zhu & Iansiti, 2012), and level of

openness of the platform (i.e., the number of groups to pursue and compatibility levels) (e.g., Rochet & Tirole, 2003; Rysman, 2009).

### **A Working Definition: Accounting for Direct Exchanges among Platform**

#### **Participants**

In this dissertation, I am concerned with platform organizations at the level of a market. According to the foregoing literature, I define platform organizations as *organizations that support direct exchanges of goods between two or more groups of actors through a common interface*. This definition implies that platform organizations are intermediaries between two or more groups, but intermediaries that allow direct exchanges between these groups of actors (Hagiu, 2007). What these intermediaries do create is a sense of group affiliation with a common interface between the groups (Hagiu, 2007). This common interface can take the form of rules and/or scripts that give structure to economic and noneconomic exchanges. Groups of actors refer not only to buyers and sellers (as in the case of eBay), but also to actors in general that do not necessarily make economic exchanges (as in the case of Facebook). However, in this dissertation, I refer to two main groups of actors: sellers of goods and buyers of goods. Finally, according to this definition, the objective of the platform firm goes beyond product development and technology transference.

While scholars in industrial economics and network economics have done research on platform characteristics and strategies, the interdependencies among different segments in these multi-sided markets make this setting a fruitful research avenue. The focus so far in the network economics tradition, as presented by the above literature

review, has been on price mechanisms, competition, and openness concerns. Yet platforms firms do more than this. For instance, some recent research suggests that non-pricing strategies such as regulatory roles are a critical part of the strategy of multi-sided platforms (Bohne, 2011; Boudreau & Hagiu, 2009). In this regard, recent research following strategy, management, organizational theory, and innovation broadens our understanding of the role of platforms' design in the marketplace (Brusoni & Prencipe, 2009; Hagiu, 2007). More specifically, Brusoni and Prencipe (2009) concluded that when platforms are defined, relationships are established among people and units—a process through which new bodies of understanding and practice are generated and old ones discarded, and information filters are implemented. Brusoni and Principe (2009: 317) conclude that “the very process of defining a new platform is, however, a major and highly risky undertaking in which firms engage very rarely.” Hagiu (2007) compares the traditional model of a merchant intermediary (i.e., buying from sellers and reselling to buyers) with a platform model (i.e., allowing affiliated sellers to sell directly to affiliated buyers). Hagiu (2007) concludes that the platform model is preferred when seller investments incentives are important or when there is asymmetric information regarding seller product quality.

The recent research on platforms following theoretical frameworks other than economics and network economics suggests a need for a better understanding of the role of platform organizations as intermediaries in the era of information economics and connectivity. In the section that follows, based on institutional theory, sociology of



markets, and relationship marketing, I introduce the theoretical model that guides this dissertation and the research question.

## CHAPTER 3

### THEORETICAL MODEL: PLATFORM-BASED DYNAMICS AND ECONOMIC VALUE

#### Valuation in Sociological Theories of Markets

Market actors are confronted with a myriad of goods to choose from. Thus, one of the main issues in the evaluation of goods is their classification—an issue whose investigation has a long history in sociology (e.g., Durkheim & Mauss, 1963; Khaire & Wadhvani, 2010; Lounsbury & Rao, 2004; Zuckerman, 1999). To classify goods means to put them into market categories that establish distinction and at the same time commensurability among the goods. Commensurability is defined here as “the expression or measurement of characteristics normally represented by different units according to a common metric” (Espeland & Stevens, 1998: 315). Market categories thus define social and symbolic boundaries among different types of products or services in an industry (Lamont & Molnar, 2002); these boundaries help establish collective identities for products within the category and inclusion or exclusion rules of its constituent members (Mervis & Rosch, 1981). Market categories then allow actors to interpret complex relationships and interactions about products and services more easily (Khaire & Wadhvani, 2010). They are decisive in the process of comparison and valuation among the different possibilities within a category because they shape expectations about what should be included and what should not. In a recent qualitative study on emergence of new market categories, Khaire and Wadhvani (2010) showed that market actors shaped

the construction of meaning in the new category by reinterpreting historical constructs in ways that enhanced commensurability and enabled aesthetic comparisons and valuation.

However, the classification of goods into market categories as such does not solve the question of valuation (c.f., Beckert & Aspers, 2011). From the buyers' side, choosing among goods depends on value judgments—that is, judgments about what is better or more desirable given some conditions (Beckert & Aspers, 2011). Therefore, questions about valuation need to address the basis on which these value judgments are formed. Cognitive psychologists (e.g., Kahneman & Tversky, 1979; 1984) have advanced value frameworks in which the perceived values of different alternatives are evaluated relative to some reference point (i.e., a gain, a loss, or the maintenance of the status quo). Nevertheless, scholars within these frameworks have not paid much attention to develop a comprehensive understanding of reference points as these reference points have been studied as given. Nor is the issue of valuation limited to the “market for lemons problem,” described by information economics as the lack of information to determine the quality of products (e.g., Akerlof, 1970). The problem is not so much about asymmetrically distributed information, but about the lack of frameworks to establish what qualifies as valuable (Beckert & Aspers, 2011).

Some recent studies relying on sociological theories of social construction of meaning and institutional theory advocate for a better understanding of social dynamics that result from the creation of common criteria for evaluating individual products (e.g., Beckert & Aspers, 2011; Callon et al., 2002; Karpik, 2010; Kennedy, 2008; Khaire & Wadhvani, 2010; Zajac & Westphal, 2004). Based on the main thesis of the sociology

of markets—that is, markets are self-reproducing social structures of exchanges (e.g., Fligstein & Dauter, 2007; White, 1981, 2002)—this research tradition suggests that perceptions of value are more than objective processes, such as maximization of individual utilities, as economics would suggest. Scholars in this research tradition continue to argue that frequent social interactions between different actors with multiple interests and experiences affect value perceptions. Over time, these social interactions will create common understandings that enhance comparison among goods and hence might trigger processes of valuation. Concepts like categories (e.g., Kennedy, 2008; Khaire & Wadhvani, 2010), status (Benjamin & Podolny, 1999; Podolny, 2008), networks (e.g., Granovetter & McGuire, 1998; Guler, Guillén, & Macpherson, 2002), standards and certifications (Brunsson & Jacobsson, 2002; Garud, Jain, & Kumaraswamy, 2002; Guler et al., 2002), rankings (Bastedo & Bowman, 2010; Espeland & Sauder, 2007), accounting schemes (MacKenzie & Millo, 2003), and habitus (Bourdieu, 1984), among others, have been applied to investigate how preferences are formed and how market actors arrive at judgments on the level of desirability of goods.

For this dissertation, a particularly relevant theoretical framework is one that has been developed to understand valuation of goods with unique and incommensurable quality-based characteristics, such as art, movies, popular and classical records, wines, restaurants, novels, doctors, and lawyers, among others (Callon et al., 2002; Karpik, 2010). This theoretical framework aligns with and potentially can add new perspectives to the understanding of experience products. Some characteristics of these “unique or singular” goods are also present in experience goods. For instance, in both cases, there is

a quality uncertainty in the pre-purchase phase as well as some degree of incommensurability when similar products provide different experiences that are difficult to compare to one another (i.e., comparing different movies, restaurants, music, etc.).

In particular, this new theoretical framework elaborates on two roles that a series of “judgment devices” have in the reduction of uncertainty regarding the quality of the goods and the elaboration of a common frame of reference (Callon et al., 2002; Karpik, 2010). Psychologists define judgment as “the components of [a] larger decision-making process that are concerned with assessing, estimating, and inferring what events will occur and what the decision-makers’ evaluative reactions to those outcomes will be” (Hastie, 2001: 657). Therefore, actors exercise judgment to choose between alternative courses of action when the actors do not know the outcomes of such actions. Judgment devices are then created by actors in the market to increase the understanding and experience that characterize buyers in that market. These devices are similar to the notion of institutions, but they can also refer to images, sounds, signs, advertisements, and people, among other sources of information (Karpik, 2010). These judgment devices are then instruments that create *oriented knowledge* about the qualities of goods so that market exchanges are possible (Callon et al., 2002; Karpik, 2010). This oriented knowledge acts as a mechanism of distributed cognition at the market level, which helps actors create commensurability among different goods (Callon et al., 2002). With a better knowledge about different goods’ qualities (i.e., appearance, performance, length of life, reliability, durability, tastes, odor), actors can judge the level of desirability of the goods. These judgment devices can take the form of: networks (i.e., personal, trade,

professional), appellations (i.e., quality labels, registered designations of origin, certifications, brands, terroirs, standards, and categories), cicerones (i.e., experts' and critics' qualifications), rankings (i.e., experts' rankings, and buyers' rankings), and confluences (i.e., locations, selling techniques, displays) (Beckert & Aspers, 2011; Karpik, 2010).

On the other hand, to act as judgment devices, these valuation systems must be credible, and to be credible, they must be trusted by those who use them (Karpik, 2010). In this sense, judgment devices are *trust* devices among participants in the market. Trust is here defined using the definition provided by Mayer, Davis, and Schoorman (1995) as the “willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” (Mayer et al., 1995: 712). Judgment devices created by market actors will act as trust devices to the extent to which actors making judgments are willing to be vulnerable to the information provided by these devices when other alternatives to find information about the products are very hard and almost impossible to find. For instance, in the case of experience products, the buyer needs to experience the product in order to have a better understanding of it. This means that the buyer would need to invest in acquiring the product even though there is little guarantee that the product is what the actor is expecting. Among other reasons, this is why company brands, consumer reports, and expert ratings, among other mechanisms created to encourage economic exchanges (e.g., Srinivasan & Till, 2002).

That judgment devices can be seen as trust devices among market participants relies on the idea that trust is a fundamental mechanism for markets to emerge and to function (e.g., Arrow, 1974; Granovetter, 1985; Williamson, 1993). Although with different drivers and implications, both economists and sociologists acknowledge the role of trust in economic exchanges. Economists tend to see trust as an efficient tool to achieve economic exchanges, which facilitates transactions (e.g., Arrow, 1974; Williamson, 1993), but it remains to be explained the sources of such trust. Instead, sociologists examine the sources and mechanisms throughout which trust influences economic exchanges and recognize that these exchanges are embedded in powerful webs of social relationships (e.g., Granovetter, 1985; 2005). On the other hand, marketing scholars, especially the research stream on relationship marketing, have also studied the role of trust in fostering long and strong relationships (e.g., Doney & Cannon, 1997; Garbarino & Johnson, 1999; Morgan & Hunt, 1994; Sirdeshmukh, Singh, & Sabol, 2002). Trust has been described as a key antecedent of relational exchange, which is longer in duration and reflects an ongoing process between the involved actors that is not possible to trace in discrete transactions (Morgan & Hunt, 1994; Urban, Sultan, & Qualls, 2000). These types of relational exchanges and the impact that trust has on them are fundamental for the self-reproducing character that social structures of economic exchange such as the ones markets portray.

### **A Proposed Model**

Applying this theory of value and sociology of markets to platform organizations, these organizations can be seen as a series of communities in which special dynamics

such as creation of common knowledge about the traded goods and the platform members' expertise start taking place. These dynamics refer to levels of collective and shared understandings of what is exchanged through the platform and who participates in such platforms. Recent research on platform organizations supports these assertions. Hagiu (2007) and Boudreau and Hagiu (2009) assert that platform organizations use more than price-related mechanisms to control their markets. Platform organizations regulate access to and interactions around their market space through nuanced combinations of a long list of legal, technological, informational, and other instruments such as pricing-setting (Boudreau & Hagiu, 2009). Platforms therefore regulate, control, and exclude participants, creating a sense of affiliation to a common community (Hagiu, 2007). For instance, Bohne (2011) found that with regard to access, platform organizations use procedures such as registration and submission rules. With regard to interaction, platforms use instruments that include search and ranking of results and users. Finally, with regard to affiliation, platform organizations use not only informational instruments, such as newsletters and blogs, but also competition and collaboration to build and sustain relationships among platform users.

I thus propose that platform organizations form judgment devices that will affect, together with the goods' characteristics and buyers' characteristics, the exchange value of experience goods. Figure 1 depicts the theoretical model proposed in this dissertation. Goods' characteristics are defined here as those bundles of features (Tirole, 1994) directly decided by the sellers. Based on research done on wine (e.g., Zhao, 2008) and for the purposes of this dissertation, these characteristics can be divided in two groups. The



first group refers to those features about the making of a product, such as class of the product and process type. They are called here science-based characteristics because they can be modified through scientific endeavor (Peters 1997; Zhao, 2008). The second group of features is more subjective and is based on traditional characteristics of the products such as brands and inimitable environmental characteristics. This group is called here tradition-based characteristics (Langewiesche, 2000; Zhao, 2008).

Designs of platform organizations vary by the extent to which they have control over the exchanges between sellers and buyers, and while doing so, platforms establish common rules of access, affiliation, and/or interaction (Bohne, 2011; Hagi, 2007). Using the framework developed on judgment devices (Callon et al., 2002; Karpik, 2010), platforms' common rules create an oriented knowledge concerning the types of goods traded in this common marketplace. This oriented knowledge works as socio-cognitive arrangements that situate the different goods in relation to one another in the common marketplace created by the platform (Callon et al., 2002). This is referred to in the literature as a qualification of goods (Callon & Muniesa, 2005; Callon et al., 2002). On the other hand, buyers' participation in the platform might also increase their expertise about the platform, which can be crucial to strengthening the exchanges among the participants in the common interface.

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Insert Figure 1 about here

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***Platform-designated qualification levels.*** The idea of qualification of goods in a marketplace comes from the work on the economy of qualities (Callon & Muniesa, 2005; Callon et al., 2002). Qualification conveys the different transformations—both material and intangible—that actors in a market perform on a good to make it tradable. That is, processes of qualification “refer to the development of shared cognitive and normative understandings of the qualities of the products exchanged” (Beckert & Aspers, 2009: 17). The idea of shared cognitive and normative understandings refers to the socio-cognitive understandings that situate products in relation to one another. These understandings emerge through processes of interaction in the market field that actors will influence differently. That is, actors proclaiming to have expert knowledge on the product (i.e., professional knowledge) will have more legitimacy than others, and therefore their inputs are more likely to be followed (Jacobsson, 2002; Sutton & Staw, 1995). This is why processes of qualification have a normative character (Espeland & Sauder, 2007). On another hand, these shared understandings can take the form of quantitative and qualitative outcomes that will indicate the position of the good in the space of possible goods (Espeland & Sauder, 2007). That is, because products can be compared to one another through processes of qualification, quantitative outcomes refer to grades in terms of rating performance of goods (i.e., a ranking), and qualitative outcomes to brands, categories, and labels.

An example of qualification schemes and qualification of goods is provided by the literature of regional foods, or agro-food products with some special characteristics (i.e., typical, specialty, high-quality) linked to local territory (e.g., Murdoch, Marsden, &

Banks, 2000; Tregear, Arfini, Belletti, & Marescotti, 2007). Scholars in this literature conceptualized regional foods as a form of cultural capital with the potential to leverage wider social and economic benefits to local and rural areas (e.g., Brunori & Rossi, 2000). In this literature, qualification is defined as “the specification of product practices and/or product characteristics by an agent, which is then linked to a particular name or label” (Tregear et al., 2007: 13). Scholars in this literature particularly differentiate between branded products of individual private firms and schemes involving numerous producer actors who agree to meet predetermined codes of practice, then are certified or guaranteed by an independent party. In this dissertation, I am concerned with schemes of qualification created by a platform firm. According to the foregoing literature and logic, I define platform-designated qualification levels in this dissertation to be the *quantitative and/or qualitative qualifiers provided by platform managers that situate or distinguish goods exchanged in the platform*. These qualifiers can be on several goods’ characteristics such as appearance, performance, length of life, reliability, durability, tastes, and odors, among others. The qualification level needs to be provided by a member of the platform—that is, a neutral actor between the sellers and the buyers. This information provided by the platform will allow market actors to locate their products among other products in the market space and therefore compare but at the same time distinguish the products among the rest of the market space.

Platform-designated qualification levels are part of what institutional theorists call the symbolic environment. According to institutional and social construction theories, organizations operate in two environments—a material environment and a symbolic

environment (Berger & Luckmann, 1967; Meyer & Rowan, 1977; Scott, 1995; Stinchcombe, 1965; Suchman, 1995). Organizations seek material resources such as capital, labor, and other inputs in the material environment, and symbolic resources such as legitimacy, status, and reputation in the symbolic environment (Scott, 1995). These two environments, though often studied as empirically distinct, are constitutive of and constituted by the organizational fields, defined as “those organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products” (DiMaggio & Powell, 1983: 148). Symbolic environments are particularly relevant to organizational fields because these fields are characterized by common meaning systems (Scott, 1995). Borrowing the concept of organizational fields, Fligstein (2001) suggested that markets be seen as fields in which common meaning systems structure action within the network of relationships of a field. Symbolic environments are therefore affecting the types of exchanges in the field.

By symbolic environment or systems, organizational theorists refer to more social and cultural content embedded in practice that imbues additional meaning into the exchange. In other words, symbolic environment gives a party advantage in exchanges (independent of their financial resources, i.e., the more material environment) and represents to exchange partners their reliability. Symbolic resources in the form of prestige, renown, reputation, and personal authority constitute the symbolic environment (Cronin, 1996; Everett, 2002). Empirical research shows the importance of these symbolic resources in economic exchanges. For instance, Zuckerman (1999) found that

stock prices of American firms were discounted to the extent that the firms were not covered by the securities analysts who specialized in their industries. Zajac & Westfall (2004) found that processes of institutionalization such as the adoption of organizational practices increased the market value of a policy despite the evidence that such practices were not implemented. A considerable number of researchers have examined the role that symbolic resources such as reputation, status, and legitimacy have on outcomes such as performance (e.g., Deephouse, 1999), survival (Meyer & Rowan, 1977; Rao, 1994), investors' impressions (e.g., Pollock & Rindova, 2003), rents (Benjamin & Podolny, 1999), social connections (Castellucci & Ertug, 2010), and privileges in general (Washington & Zajac, 2005). One of the theoretical underpinnings of these studies is that the symbolic environment provides meanings to exchanges, which at the same time gives an order and a hierarchy that is, more often than not, independent from the material world (e.g., Benjamin & Podolny, 1999; Espeland & Sauder; Khaire & Wadhvani 2010).

I therefore hypothesize that platform qualification levels will act as a mediator between goods' characteristics and the exchange value of a good. The reasons are that platform qualification levels can act as normative and symbolic frameworks that provide a common context to evaluate the goods exchanged. In other words, platforms' schemes make products commensurable and create a hierarchy of products, which will affect how buyers value products. Hence, the first hypothesis:

***Hypothesis 1:*** *The relationship between goods' characteristics and exchange value of the product traded in the platform is mediated by platform-provided qualification levels.*

Institutional theory, and particularly what is related to processes of institutionalization (Anand & Watson, 2004; Khaire & Wadhvani, 2010; Tolbert & Zucker, 1996), elaborate on the effect of time on processes of habitualization (i.e., routinization or internalization), objectification (i.e., convergence and then transcendence of meaning), and sedimentation (i.e., continuity and stability) of human practices into institutions. That is, a new organizational practice or any other type of human practice that involves interactions and exchanges (e.g., legislation, market innovation, and organization) can engage in a series of stages that can carry out processes of institutionalization.

Platforms can be subject to institutionalization processes partially because these organizations are located at the center of exchanges between sellers and buyers, and they can gain control on their exchanges. This last affirmation suggests then that these organizations might become the center of the exchanges and that the direct relevance of intrinsic characteristics of the products on the exchange value might decrease. In other words, buyers in the platform will appreciate the platform for what it has to say about the products, independently of the intrinsic characteristics of the products. Using institutional theory, it can be hypothesized that platform tenure will influence the exchanges made in the platform. In other words, with the passing of time and thus an increase in platform tenure, the platform will transcend its original function and become almost an institution. Empirical evidence suggests that community-based dynamics such as competitions, ceremonies, and auctions, in which field-level participants had the opportunity to observe each other and interact, tend to become institutionalized (Anand & Watson, 2004; Khaire & Wadhvani, 2010; Lampel & Meyer, 2008; Rao, 1994). This sedimentation process

could be an explanation for why buyers keep buying through the platform even when it may be more efficient doing direct exchanges with sellers. The platform is therefore becoming a self-reproducing social structure that creates exchanges among participants. Hence, the second proposition:

***Hypothesis 2:*** *Platform tenure will moderate the effect of platform-designated qualification levels on exchange value of the goods traded in such a platform.*

***Sellers' and buyers' institutional contexts.*** Using institutional and structuration arguments (Barley, 1986; Barley & Tolbert, 1997; Oliver, 1991), the location of the seller and the location of the buyer might affect the extent to which platform-designated qualification levels affect exchange values. The reason is that contexts play an important role in the creation of common frameworks of reference. For instance, structuration theory suggests that actors and social structures (i.e., contextual rules) interact in such a way that even identical innovations can lead to divergent forms of organization (e.g., Barley, 1986).

On a more aggregate level, scholars combining institutional theory and international business have done research on how institutional contexts affect multinational operations (e.g., Busenitz, Gomez, & Spencer, 2000; Kostova, 1999; Kostova & Roth, 2002; Kostova, Roth, & Dacin, 2008; Spencer & Gomez, 2004). These scholars have introduced the idea that institutional contexts (i.e., countries) act as social forces that affect organizational practices. Specifically, these scholars introduced the concept of institutional profiles (Kostova & Roth, 2002). Based on the three pillars of institutions (i.e., normative, cognitive, and regulatory) (Scott, 1995), these scholars

defined institutional profiles as the issue-specific set of regulatory, cognitive, and normative institutions in a given country. The regulatory component reflects the laws and rules that promote certain types of behaviors and restrict others (Kostova & Roth, 2002; Scott, 1995). The cognitive component reflects the shared social knowledge and collective understandings (i.e., scripts, schemas) held by the actors (Markus & Zajonc, 1985). Finally, the normative component reflects the values, beliefs, norms, and assumptions about human behavior held by the actors (Kostova & Roth, 2002; Scott, 1995). Scholars using the notion of institutional profiles argue that this concept is issue specific; that is, it needs to be anchored in a particular subject and/or practice (Busenitz et al., 2000; Kostova & Roth, 2002). Research on quality management (Kostova & Roth, 2002), entrepreneurship (Busenitz et al., 2000), and multinational enterprises (Xu & Shenkar, 2002), among other areas, has used the concept of institutional profiles.

In this dissertation, I anchor the concept of institutional profiles in the type of goods that are being exchanged in the platform. Moreover, scholars argue that the institutional profiles vary according to the level of favorability or acceptance of such specific subject or practice (Kostova & Roth, 2002). In more general terms, Scott's (1995) theoretical underpinning of institutional profiles—regulative, normative, cognitive systems— suggests that these facets contribute in different ways to the strength and prevalence of a specific institution. For the purpose of this dissertation, I define an institutional profile to be the *level of importance of a specific good in a set of regulatory, cognitive, or normative country-level systems*. I therefore use country as the level of analysis to capture societal-level forces that affect organizational and individual



practices. This definition also implies that all three pillars do not necessarily need to be present, but that the level of importance of a specific product can be reflected in one or all three pillars.

In the case of experience goods, research done on wines and food products explores the interaction between organizational practices and country institutional profiles (Murdoch et al., 2000; Tregear et al., 2007; Zhao, 2008). For instance, this research shows that wines and food products are continually referred to as localized products, answering to some of the cultural and specific characteristics of the production places. For instance, Zhao (2008) showed how fine wines in France were different from the wines in California. Products' characteristics (e.g., type of grapes, region) interact differently according to the country of the producer's location in ways such that different valuation systems were developed. Although for both industries the wine is well accepted, the French industry has a longer tradition of acceptance reflected in a set of regulatory, cognitive, and normative institutions related to fine French wine. Zhao (2008) showed that for the French market, the type of grapes was less relevant than for the California market. Instead, appellation was more relevant for the French valuation system of wines than for the California system. Moreover, Zhao (2008) showed that product quality, measured by the tasting score of judges, had a greater positive effect on price for California wines than for French wines.

Applying these results to the case of platforms and experience goods, I propose here that both sellers' and buyers' institutional contexts might influence how seller-

controlled goods interact with the platform-designated qualification levels. Because of the design of platform organizations, these firms can usually reach many different locations facing different institutional forces. Sellers' and buyers' institutional profiles related to the good exchanged will affect the good evaluated: the stronger the levels of importance of the good in a specific institutional context, the stronger the effect of tradition-based characteristics of the goods on platform-designated qualification levels. On the other hand, as mentioned above, platform-designated qualification levels can be given in two different ways: mainly quantitatively (i.e., rankings) or qualitatively (i.e., descriptors). Because buyers are located in different institutional contexts, the two types of qualifiers provided by the platform might have different impacts on economic exchange value depending on these institutional contexts. As in the case of the Californian wine industry (Zhao, 2008), quantitative indicators of the quality level of the good will have a stronger effect on economic exchange value on institutional contexts with less tradition and normativity around the good. I therefore propose that:

***Hypotheses 3:*** *Sellers' institutional profile will moderate the relationship between seller-controlled goods and platform-designated qualification levels such that:*

***3a:*** *Institutional contexts with higher level of product importance will increase the effects of tradition-based characteristics on platform-qualification levels and decrease the effects of scientific-based characteristics on platform-qualification levels.*

***3b:*** *Institutional profiles with lower level of product importance will increase the effects of scientific-based characteristics on platform-qualification levels and decrease the effects of tradition-based characteristics.*

***Hypotheses 4:*** *Buyers' institutional profile will moderate the relationship between platform-designated qualification levels and exchange value of goods traded in such platform such that:*

*4a: Institutional contexts with higher level of product importance will increase the effects of qualitative qualifiers on economic exchange value and decrease the effects of quantitative qualifiers.*

*4b: Institutional contexts with lower level of product importance will increase the effects of quantitative qualifiers on economic exchange value and decrease the effects of qualitative qualifiers.*

***Buyers' expertise about the platform.*** Expertise and experts are much discussed in developmental psychology, ergonomics, and sociology of knowledge. At the broader level, expertise research is based on two broad approaches. First, expertise is examined as an attribute of an individual or individuals that will affect their reliability and quality of performance (for a review, see Farrington-Darby & Wilson, 2006). Among other areas of interest in the view of expertise as an attribute, an important area of study has been to distinguish between experts and novices (Ashton, 1974; Camerer & Johnson, 1991; Spence & Brucks, 1997). Additionally, this view focuses on designing the optimal characteristics so that expertise can be reached (Farrington-Darby & Wilson, 2006). Second, expertise is studied as tools for thinking and rules for action jointly constructed by specific social groups. Here, expertise is conceived as knowledge that is socially constructed regarding normative (i.e., rule-like) characteristics of problem-solving aspects across a range of social situations (Reed, 1996).

This dissertation falls within this second approach to expertise, where I particularly focus on the connection among expertise, previous experiences, and trust (Stehr & Grundmann, 2011). Experts are usually recognized within a specific domain, where they gain authority and power with their access to specific, storable, controllable, indeterminate (Boreham, 1983), and protectable knowledge (Larson, 1990). Expert

knowledge reduces complexity about a particular subject or object, and therefore enhances trust in what the expert is suggesting or advising about such subject or object. Scholars in relationship marketing also arrive at the conclusion that actors' level of expertise enhances trust in such actor, and therefore, this level of expertise can be reflected in a higher perceived value (Szulanski, Cappetta, & Jensen, 2004). Morgan and Hunt's (1994) model on relationship marketing develops the idea that trust, defined as the confidence level in an exchange partner's reliability and integrity, will influence relationship commitment, which will be reflected in positive outcomes such as more cooperation, functional conflict, less propensity to leave, among others. Also, in the research tradition of relationship marketing, scholars argue that there is a relationship between the development of expert knowledge as experiences with commercial partners and the development of trust in those partners (Ganesan, 1994). More specifically, the more experience with a commercial partner, the more knowledge about that partner and therefore the higher the levels of trust in the relationship (Ganesan, 1994).

In particular, I argue that platform organizations are spaces in which these levels of expertise can be created and shared through recursive experiences with the platform. That is, platform organizations regulate access to and interactions around their market space through nuanced combinations of a long list of legal, technological, informational, and other instruments such as pricing-setting (Boudreau & Hagiu, 2009). Platforms, therefore, regulate, control, and exclude participants, creating a sense of affiliation to a common community (Hagiu, 2007). With the passing of time, actors that constantly participate in the platform will develop specialized knowledge about the platform, which

suggests that this specialized knowledge or level of expertise regarding the platform might enhance the level of trust in the information that the platform provides. I then hypothesize that buyers' expertise related to the platform will be reflected in a higher exchange value of goods exchanged through the platform because buyers with high levels of expertise about the platform will tend to trust more in the platform. Those participants in the platform that have higher levels of expertise about the platform will be willing to give up more resources to acquire the goods exchanged through the platform than those with low levels of expertise. Therefore, I propose the following hypothesis:

***Hypothesis 5: Buyers' expertise related to the platform positively moderates the relationship between platform-designated qualification levels and exchange value.***

## **CHAPTER 4**

### **METHOD**

This dissertation's research context is the emerging field of specialty coffees. Within this field, I study the online competitions and posterior auctions of the best coffees in producer countries such as Brazil, Costa Rica, Nicaragua, Colombia, and others. These competitions and posterior auctions are examples of platforms because in this setting one organization, Alliance for Coffee Excellence (ACE), organizes coffee producers, coffee importers, coffee roasters, and governmental institutions to exchange differentiated coffees following some provided guidelines. I use specialty coffee as an illustrative case (Siggelkow, 2007) of a platform in a sector that hasn't been explored much: agricultural products and international supply chain. The coffee industry, and particularly the emergence of the specialty coffee industry, is an ideal industry to study dynamics of product valuation and experience goods for the following reasons: 1) the coffee market is not a new market, yet the explosion in the last three decades of specialty coffees has reinvigorated this market, thus changing the rules of the game (See Table 2). This explosion has been produced less by technological achievements and more by marketing and strategic advertisement. 2) Specialty coffee has been part of a larger trend that includes such developments as microbrewed beer, specialty breads, single malt scotches, and organic vegetables, which are all experience goods. As in the case of fine wines, the characteristics of a gourmet coffee are not clear, meaning platform organizations might play crucial roles. 3) Finally, the supply chain of products such as

coffee integrates dynamics among different countries, which can affect economic exchanges in the platform (See Figure 2).

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Insert Figure 2 about here

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### **Changes in the Coffee Industry: Specialty Coffee Market**

In the last three decades, there has been an explosion in the coffee industry of what is called specialty coffee. Although there is no unique and clear definition of specialty coffee, in general terms, the term refers to gourmet or premium coffee grown in special and ideal climates and that is distinctive because of its taste and general lack of defects (Ted, 1996) (See Table 3). From a commodity in the 1980's, the coffee industry has been reenergized with investments in this new market niche (Luttinger & Dicum, 2006; Rindova & Fombrun, 2001). The differentiated coffee segment is the most rapidly growing portion of the coffee industry (FAO, 2009). In the U.S., differentiated coffee has increased its market share from 1% to 20% in the last 25 years (FAO, 2009).

The beginning of specialty coffee can be traced back to the 1960s, with the subsequent period of stagnation, decline of coffee consumption, and focus on price as the major determinant of consumer preference (Luttinger & Dicum, 2006) (see Table 2). The expansion of large roasting companies such as Folgers, Maxwell House, and Nestle, with their greater efficiency and more reliable and less expensive product, did not expand coffee consumption. Per capita consumption in the United States was stagnant between the 1960s to the 1990s. Yet within this context, there was a group of coffee experts who

cultivated the art of fine coffee making (Luttinger & Dicum, 2006). Mostly European immigrants, these groups of small roasters, found in ethnic enclaves such as New York's Little Italy and Greenwich Village and California's Berkeley, made available different varieties of coffees to small but ultimately influential sections of the public. In this less-than-promising scenario, a company that would be decisive to the posterior development of the specialty coffee was Starbucks, located in Seattle (Rindova & Fombrun, 2001).

Starbucks and the rest of the differentiated coffee industry spent the 1970s and 1980s slowly building a loyal consumer base, spreading awareness of different types of coffees and diffusing a business model, namely the coffee shop. Between 1989 and 1994, when coffee prices dropped and the ICA and ICO were in crisis, the differentiated coffee companies were also taken by surprise. However, rather than losing market share under higher prices, these coffee organizations continued to grow (Luttinger & Dicum, 2006). At the end of 1990, there was a frenzy of acquisitions and mergers, and more and more money was being focused on the sector (Peel, 1997 taken from Luttinger & Dicum, 2006). During the end of the 90s, experts and investors following this new coffee trend stated that there "was a race on to see who will be number two to Starbucks" (Peel, 1997: 16). Even the traditional coffee sector was finally taking notice of the boom of this coffee movement. Darker roasts had become available, and the major roasters had launched their own differentiated coffee brands, such as Philips Morris' Gevalia (Luttinger & Dicum, 2006). Although Starbucks' strategies have been claimed by experts as the leading strategies in these new coffee segments, the company has been criticized as well. It is acknowledged that Starbucks uses hostile tactics to enter into specific regions, competing



directly with the kind of small, independent cafes that are the defining characteristic of the specialty coffee movement (Daviron & Ponte, 2005; Luttinger & Dicum, 2006).

Moreover, its dark roast style has been also criticized as a practice that reduces some of the characteristics of good coffee (Pendergrast, 1999).

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Insert Tables 2 and 3 about here

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An important characteristic of this new segment is the differentiation and de-commoditization of coffee (Luttinger & Dicum, 2006) (see Table 2). Where the large corporations (e.g., General Foods, Procter & Gamble, and Nestle) have paid attention to price and homogeneity, the players in the specialty coffee industry consider origin, bean characteristics, processing, cultivation, and preparation methods as relevant qualities of the coffee (Daviron & Ponte, 2005; Luttinger & Dicum, 2006). For instance, one of the industry's beliefs is that coffees from some origins are better than others (i.e., Colombia coffee, Hawaiian Kona coffee, and Blue Mountain Jamaican coffee). This belief is embraced by consumers of specialty coffees to the point that they have been willing to buy more expensive coffee from specific regions simply because this coffee is more expensive (i.e., Hawaiian Kona scandal in 1996, Luttiner & Dicum, 2006).

The players in this industry have witnessed the creation and proliferation of different standards that attempt to organize and define the identity of the new industry (See Table 4). Other initiatives rate specialty coffees according to specific characteristics and the ratings of experts. Among these initiatives, one can find the Q Coffee system and

the Cup of Excellence (See Table 4). Specifically, the farmers in the Cup of Excellence competition can compete via Internet auction, where, depending on the results of the competition, coffees are sold at higher prices. The idea of these auctions is to differentiate even more the specialty coffee from the commodity type, to introduce a spirit of competition among growers, to advertise coffees of great quality among possible buyers, and hence, to develop future relationships (Scholer, 2011). The prices of coffees in these auctions can reach on up to \$50 a pound (CoE, 2011, Colombia's results).

### **Cup of Excellence (COE)**

Specialty coffee quality competitions and the follow up e-auctions have emerged as an innovative system for discovering, promoting, and trading high-quality coffee beans from new coffee regions (UNCTAD, 2003). These competitive auctions are market-based systems for trading parcels of green (unroasted) beans organized by country of coffee producers. These online auctions were created as a low-cost means for producers and buyers to interact, price the coffees, and reveal the values associated with coffee-quality ratings and coffee attributes (Scholer, 2011). Although the amount of coffee sold through online auctions is only a fraction of the annual world coffee production (Knox, 2006), specialty coffee e-auctions are growing in popularity, and more countries are likely to use this avenue to promote high-quality coffee, get better prices for them, and form relationships (Scholer, 2011).

These specialty coffee online auctions can be grouped into two types of competitive auctions (Daviron & Ponte, 2005; Donnet, Weatherspoon, & Hoehn, 2007). The first group is exemplified by the Cup of Excellence program (COE), organized by

the Alliance for Coffee Excellence (ACE). The second type of online auction is represented by the Q auction, which is organized by the Coffee Quality Institute (CQI). This separation is important because previous research using the data from these online auctions found significant differences between the market dynamics of both auctions (Donnet et al., 2007; Donnet, Weatherspoon, & Hoehn, 2008). With COE, the amounts of coffee auctioned are smaller, and COE can be more informative about specific characteristics of the coffees traded. Coffee importers representing smaller coffee roasters also participate in the COE auction. In the second type of auction, the lots traded are larger and therefore it may be more difficult to provide detailed information about the characteristics of the coffee. However, there are some similarities between these two types of auctions. For instance, coffee growers participating in the auctions are restricted to those from the country organizing the competition.

### **Data Collection**

*Online competition and coffee auctions.* This dissertation concentrates on the COE competitions because they are the most well known and with the longest tradition in the market. COE was established in 1999 in Brazil by ACE, a group of dedicated coffee connoisseurs, international governmental support and NGOs, with the objective to recognize farmers monetarily for their hard work in growing a coffee of excellent quality (CoE, 2011). An important outcome of this type of competition is that it creates an excitement among roasters and consumers in the coffee community. Over time with the introduction of more coffee-producing countries into the competitions, a sense of

community has developed in which information and support are shared by regular participants in the competitions (CoE, 2011). As of 2012, there are nine countries that regularly participate in yearly competitions with two new countries joining during 2012 (i.e., Mexico and Burundi) (See Table 4). The Cup of Excellence is a protected trademark—Cup of Excellence®—and only those coffees that win are allowed to use this recognition. In other words, this award is not given to the entire farm but only to the coffee lot that was submitted to the competition. Table 4 presents the available information in the COE up to January 2013. The information from the COE auctions is available through the webpage of the respective organizer and upon subscription.

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Insert Table 4 about here

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The COE consists of both a cupping competition and an internet auction about five weeks after the competition. In the cupping competition, the detailed categories evaluated include aroma, flavor, cleanness of cup, acidity, mouthfeel, balance, and aftertaste. Each category is then evaluated on the coffee cup, and the results are scored and aggregated to obtain a final evaluation. The industry cupping form and protocol for rating coffees are based on a 100-point scale with specialty coffees being those scoring 80 or above. The Specialty Coffee Association of America (SCAA), has encouraged the use of the 100-point scale with the intention of unifying the evaluation and becoming the industry standard to assuring higher levels of material quality to more demanding consumers (Daviron & Ponte, 2005; Donnet, et al., 2008) (See Appendix 1, Cupping rules and

protocols). There are two rounds during which initially, national judges rate the coffee samples participating in the competition. The second round includes international judges and coffee experts who travel to the competition to blindly rate the coffee. In total, coffee samples are graded at least five different times during the competition. Only coffees that consistently score high enough are allowed to move forward in the competition (the top ten are cupped six times) during the three-week process. The lots that score 90 or higher are called “presidential,” and they receive an additional award. The three highest cupping scores are announced at a ceremony and the winning farmers are publicly recognized. Usually up to 50 different coffees participate in the Internet auction, which are the coffee lots that scored higher than 85 in the score provided by the international jury. The online auctions are scheduled approximately five weeks after the competition.

Quality scores as well as coffee samples and other general production information are made available to potential buyers prior to the online auction. Once this information has been distributed among potential buyers (pre-registered roasters and importers), the online auction takes place on a specific date through the ACE website. During the auction, potential buyers participate in different ways. Some buyers bid independently, others form groups and bid on the coffees as a unit, and yet other buyers, mainly coffee importers, bid on coffees on behalf of their regular customers and charge a fee for their services. While the auction is ongoing, potential buyers remain anonymous. The auction system has two bid systems: a standard bid and a proxy bid. In the standard system, the buyer submits a higher bid on a lot and must manually follow up the system and bid on the lot according to the desired price. In a proxy bid system, the buyer enters the

maximum amount he or she would be willing to pay for the coffee. This amount is kept confidential from other bidders and the seller. The proxy system places bids on the buyer's behalf, using only as much of the bid as is necessary to keep the initial buyer's bid higher. Before the auction, the buyer decides whether to use the standard system or the proxy system; once the proxy system is placed, it cannot be changed. The auction generally begins at 9:00am EST and runs until there are no more lots of coffee to bid on with the highest bidder buying the complete lot of coffee. The average length of the auction is 4 hours (CoE, 2011).

Organizing these competitions demands the participation of many different actors (Interview Susie Spindler, Executive Director, COE 2011). First, because participation in COE is free for any farmer in the country hosting the competition, ACE has country partners that are usually governmental and private sponsors. Second, three different groups are the target participants in the competitions and auctions. First, ACE ensures that a strong, capable group of farmers are willing to participate in the competitions. Organizing the group of farmers can take up to one year or more. Second, ACE also has must promote these competitions among the countries that buy these types of coffees such as Japan, Korea, Sweden, Australia, and the United States, among others. Third, ACE nominates the head judge and organizes the group of international juries that cup the coffees in each of the competitions. According to the executive director of ACE, these are the reasons for why not all the countries can support these coffee competitions (Interview Susie Spindler, Executive Director, ACE, 2011).

To offer an idea of the money involved in these auctions, the 2004 competition in El Salvador cost US\$180,000 to host (Daviron & Ponte, 2005), there were 35 winning farms, and the highest bid was \$6.89 per pound of green coffee. The organizing committee, which is usually a part of the national coffee institution of the host country, takes care of most of the logistics of the coffee competitions and pays all competition costs. ACE appoints the head judge and the participants of the international jury. The head judge is involved from the beginning of the cupping (national rounds) to the end of the competition (ceremony). With regard to the auctions, the farmers selling their coffees pay a commission to the organizing committee to help support the event. The commissions are a percentage of the price received at the auction (i.e., depending on the price per pound, this commission can reach up to 25%). Moreover, winning farmers pay the normal export, milling, and marketing costs (COE, 2011).

**Sample.** In this dissertation, I used the archival data from previous COE competitions since 1999 (See Table 5) and data collected in the competitions during 2012. The countries included were: Bolivia, Brazil, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Rwanda. Mexico and Burundi were not included because these two countries had information only for 2012. I also participated for a week in the international round of cupping in the 2012 Colombian competition. Although the information collected was more qualitative in nature (e.g., interviews, participant observation, photos, and videos) and did not directly support the testing of the hypothesis, this information was crucial to better understanding the roles of judges and buyers. I come back to this point below when I explain the measurement of buyers' level of

expertise on the platform. With the archival information collected since the beginning of the competitions and on-line auctions, I had to perform an extensive data cleaning process because the available data was inconsistent, making it unlikely that I could obtain reliable results. In the cleaning process I completed the name of buyers and checked the spelling of buyers and judges, and the rest of the variables included in the analyses. To complete the countries of origin of the buyers missing this information, I checked the name of the buyer on the Internet. For those situations where the buyer had operations in more than one country, I registered the name of the country in which the buyer had initially started operations. However, there were a few instances in which buyers were located in more than one country.

### **Measurement**

***Dependent variable.*** I measure economic exchange value with the actual amount of money the buyer pays per pound of each lot of coffee through the auction system (c.f., Priem, 2007). The price derived from an auction system is an appropriate proxy to measure exchange value because auctions are systems explicitly concerned with generating and maintaining social structures as a means of determining value (Smith, 1990). Auctions offer an overview of how personal interests, collective interpretations, and social practices are orchestrated and thus influence how values are determined (Smith, 1989). Previous studies analyzing value determination have also used auction price as a proxy to measure value (Ariely & Simonson, 2003; Khaire & Wadhvani, 2010; Resnick, Zeckhauser, Swanson, & Lockwood, 2006).

### ***Independent variables***



***Goods' characteristics.*** According to the theory developed in this dissertation, good characteristics can be divided in two groups of goods' characteristics (c.f., Zhao, 2008): scientific-based characteristics and tradition-based characteristics. The first group of characteristics was measured using 1) varieties of coffee beans and 2) processing systems. Regarding varieties, I concentrate on one particular variety of coffee bean called Arabica because COE accepts only Arabica coffee beans. Within Arabica, there are almost 20 different varieties of coffee beans (Cafe Imports, 2011). Because one lot can have more than one of these varieties, I code different varieties as dummy variables. To define the varieties included as independent dummy variables, I first ran a frequency analysis with all varieties. From this frequency, I determined which varieties compose approximately the 80% of all varieties in the data. The seven varieties found to make up the 80% were Caturra, Bourdon, Catuai, Colombia, Typica, Pacamara, and Pacas. I also confirmed with experts in the coffee industry that these varieties are the most common varieties in the industry. These varieties were included as dummy variables in the different analyses.

Once the coffee cherry has been harvested, the next step is to remove the outer layers of the coffee cherry (i.e., take the mucilage from what is called the parchment). Although there are two main processing systems—dry methods and wet methods (NCAUSA, 2012)—there is a tendency in the market to mix or use hybrids between dry and wet methods (Boot, 2007b). Thus, classifying the processing systems was necessary to find a balance point among new tendencies in the industry, the accepted standards of COE, traditional processing methods, and the information available in the online-

auctions. To do so, I consulted different sources (e.g., Internet, coffee experts, and the data available) to arrive at the following classifications: conventional methods, pulped natural methods, and solar-dried methods with a wet processing system. Conventional methods refer to traditional methods in which wet and dry processing systems are combined without much variation. Pulped natural methods refer to semi-dry methods usually with little use of water and the mucilage and parchment dried together (Boot, 2007b). Finally, the solar-dried method refers to a rather newer processing system in which special attention is given to the drying techniques. The reason is that the drying stage in the coffee process is crucial to reaching a uniform and consistent flavor profile without over-fermented flavor taints (Boot, 2007a). These newer processing systems are classified under the category of solar-dried methods in which the coffee parchment is placed on solar dryer systems and plastic tarps. With this system, the beans are not only protected from the sun, but they also have more consistent moisture content (Boot, 2007a).

Other goods' characteristics included in the analysis were aspects such as the size of the lot measured in bags of 30 kilograms each, the coffee growing area in proportion to the farm size, the altitude at which the coffee is grown using the Mean Sea Level (MSL), and the coffee certification (such as organic, Bird-friendly coffee, Rainforest Alliance-certified, and Utz Kapeh) if appropriate (See Table 4 for an explanation of the different certifications in the market). This information is provided by the ACE website upon registration.

***Platform-designated qualification level.*** I measure this construct platform-designated qualification levels with two different qualifiers: quantitative and qualitative qualifiers provided by COE's database. The quantitative qualifiers refer to the international jury score (a scale between 80 and 100). The qualitative qualifiers are the top jury descriptors in terms of different characteristics (aroma/flavor, acidity, balance, and any other criteria used by the judge). Examples of qualitative qualifiers are: jasmine, blueberry, lemon, and chocolate, among other sensory adjectives that characterize the flavor of a particular coffee lot. Because the initial objective of these qualifiers was to use them as a marketing tool to promote the different coffee lots in the online auctions, all qualifiers are positive in nature. One method of transforming the qualitative data into a measureable variable is to count the number of different qualifiers provided by each coffee lot. Thus, I counted the number of independent qualifiers for each coffee lot; in the analysis, I refer to this number as descriptors.

***Platform tenure.*** I measured platform tenure with the number of years the country has been hosting the competitions. This is a country-level variable because coffee competitions are held by the coffee growing country usually once a year.

***Sellers' institutional contexts.*** The institutional contexts measures were developed based on the level of importance of coffee in a specific country. Although most of the articles that use this concept used survey data on the regulative, cognitive, and normative components' dimensions (e.g., Busenitz et al., 2000; Kostova & Roth, 2002), I used a proxy based on the importance of the coffee industry in each of the coffee-producer countries. The reason is that for this dissertation, survey data might limit the analysis to

cross-sectional data because there would be only one or two data points in time. Macroeconomic factors such as coffee export values and coffee prices to growers were used as indicators of the institutional profile of the coffee sector in the sellers' countries. The logic behind these two variables was that countries where coffee has a significant level of importance would show higher levels of exports and prices to growers. I used lag variables of these macro-level variables. That is, for transactions done in Year<sub>N</sub>, I used macro information such as coffee exports and coffee prices for Year<sub>N-1</sub>. Using lag variables assumes that macro conditions take time to change and affect both buyers and sellers. These two indicators were country-level variables.

***Buyers' institutional contexts.*** Similar to the sellers' case, buyers' institutional profile were developed based on the level of importance of coffee in the buyers' countries. The indicators that I used in this case were consumption levels of coffee and coffee imports value. I also used lag variables for these indicators. With regard to coffee lots bought by multiple buyers from different countries, I calculated the average of coffee consumption and coffee imports. An additional variable I used as an indicator of an institutional profile dimension is the representation that a specific country has on the judges' country composition in COE. That is, I calculated the representation in terms of the number of judges by country who participate in the cupping protocols of the competitions. With the passage of time and participation in competitions, increased country representation in the jury of COE competitions lets previous years' information and experiences accumulate to provide more information.

***Buyers' experience about the platform.*** One of the strategies that ACE uses to attract coffee buyers and build long-term relationships is to have the buyers act as judges in the coffee competitions. Although each jury body must be carefully crafted (Grant, 2012), with this strategy ACE hopes to bring buyers and sellers closer to each other. For each competition, ACE opens a call to participate as a jury member. Individuals interested in participating as a judge may apply by providing information about their level of experience cupping coffee, the company for which they work, and any other relevant information about their interests in participating as judges. Once all the applications are submitted, ACE studies this information to assemble a jury that has enough experience cupping and buying coffee, and that represents different international markets. With small changes, this strategy of attracting buyers to act as judges has been in place since the ACE entered the coffee competitions.

I used the times that each buyer has acted as judge in past coffee competitions as a behavioral measure of buyers' expertise about the platform. The participation of buyers as judges suggests that these buyers are highly experienced in the coffee cupping procedures. Moreover, when acting as a judge in one of the COE's competitions, the buyer gains firsthand experience of the quality of the products exchanged in the platform. Buyers who act as judges also recognize the strict processes and mechanisms used to certify the winners of COE. Because these judges participate in a series of events during the week in the host country, most likely these buyers develop a stronger sense of belonging and self-identify with COE objectives and strategies. Thus, by acting as judges, buyers develop expertise about COE's capabilities and procedures. To calculate

the frequency of buyers' participation as judges, I used the information provided on the ACE webpage given that ACE posts the companies' information for both judges and buyers. I therefore used this information to count how many times a given buyer for an online-auction in Year<sub>N</sub> has participated between Year<sub>1999</sub> and Year<sub>N-1</sub> in COE competitions as a judge. In a general way:

$$\text{Buyer } j \text{ Expertise Year}_N = \sum_1^{N-1} \text{If buyer}_j \text{ acting as judge}_{N-1} = 1$$

Because each of the lots can be bought by more than one buyer, to obtain buyers' expertise about the platform for each transaction, I calculated the average of the number of times buyers purchasing coffee lot<sub>i</sub> have participated as judges. I used this average as a conservative measure of buyers' expertise levels. That is, if in a single transaction, there are both frequent judges and infrequent judges, there is in total a lower level of expertise than in a transaction where all buyers were frequent judges in previous competitions. In a general way:

$$\text{Expertise Transaction } i \text{ Year}_N = \frac{\sum_1^{\# \text{ Buyers transaction}_i} \text{Buyers Expertise Year}_{N-1}}{\# \text{ Buyers Transaction}_i}$$

**Control variables.** I control for some of the competition and auction characteristics included in studies done related to auction phenomena such as: total number of lots in the competition, total number of buyers per transaction, and whether buyers from a single transaction come from different countries (e.g., Smith, 1990). Finally, I control for time

with a categorical variable of year of the competitions and auctions. In Figure 3, I present all the variables that were included in the analyses.

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Insert Figure 3 about here

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### **Data Analysis**

I created one database with all the archival information from 1999 to 2012. This database has cross-sectional information and longitudinal information, with different levels of measurement: country, competitions-auctions, and transaction levels. Some elements vary for buyers (buyers technically can go to any competition), whereas the same elements do not vary for coffee growers (farmers can go only to the competitions in their country of origin). The unit of analysis in this dissertation is the transaction between buyer(s) and coffee grower(s) in a given year and competition.

***Testing platform-designated qualification level.*** I tested the relationships in hypotheses 1 and 2 using the database created with the archival information from COE between 1999 and 2012. The analyses that I used were mixed effects models and generalized least squares (GLS) models. Mixed-effects models were used when the dependent variable was the highest bid. These models also allow for estimation of both fixed-effects and random effects, especially when there are repeated measurements or measurements on clusters or related groups (Laird & Ware, 1982; McLean, Sanders, & Stroup, 1991). Mixed-effects models are also a stronger technique when the data is unbalanced (i.e., different number of observations per subject). GLS models were used when testing the mediator effects,

especially with regard to score, because in this case the random effect was not significant. However, I still controlled for year as a dummy variable when running GLS models.

To first test for the mediation effect, I ran traditional regression models to test for full and partial mediation (MacKinnon, Fairchild, & Fritz, 2007). I therefore estimated a series of models of the following form:

$$P_{ijkl} = \beta_0 + \beta_{1in}GC_{ijkn} + \beta_2Competitions_j + \beta_3Country_l + \gamma_kYEAR_K + \varepsilon_{ijkl}$$

$$PDQ_{ijkm} = \beta_0 + \beta_{1in}SCG_{ijkn} + \beta_2Competitions_j + \beta_3Country_l + \varepsilon_{ijkl}$$

$$P_{ijkl} = \beta_0 + \beta_{2im}PDQ_{ijkm} + \beta_3Competitions_j + \beta_4Country_l + \gamma_kYEAR_K + \varepsilon_{ijkl}$$

$$P_{ijkl} = \beta_0 + \beta_{1in}GC_{ijkn} + \beta_{2im}PDQ_{ijkm} + \beta_3Competitions_j + \beta_4Country_l + \gamma_kYEAR_K + \varepsilon_{ijkl}$$

, where:

P= Highest bid, price  
 i=lot, 0...30 (app.)  
 j=Competition, 0...76  
 k=Year, 1999...2012  
 l=Country, 1...9  
 n=Coffee characteristics, 1...6  
 m=Platform qualifiers, 1 and 2  
 GC= Goods' characteristics  
 PDQ= Platform-designated qualifiers  
 Competitions=Control variables for competitions  
 Country=Control variables for country  
 YEAR= Random-effects parameters  
 ε=Error

In this model, it is assumed that GC, PDQ, and country are part of the fixed-effect model and YEAR is part of the random-effect model for the Mixed-Models that were run.



To test the tenure effect of the platform, I used goods' characteristics as part of the model, and I added an interaction effect between platform qualification levels and platform tenure. The model to test the tenure effect is as follows:

$$P_{ijkl} = \beta_0 + \beta_{1in}GC_{ijkn} + \beta_{2im}PDQ_{ijkm} + \beta_3PT_{jkl} + \beta_4PT_{jkl} \times PDQ_{ijkm} + \beta_5Competitions_j + \beta_6Country_l + \gamma_kYEAR_K + \varepsilon_{ijkl}$$

**Testing the influence of contexts.** The moderation effects of sellers' institutional contexts and buyers' institutional contexts were tested using interaction terms, where SIC refers to sellers' institutional importance of coffee and BIC to buyers' institutional importance of coffee. I followed the traditional approach of analyzing first the direct effects and second the interaction effects. The general equation is as follow in the case of sellers' institutional context:

$$PDQ_{ijkl} = \beta_0 + \beta_{1in}GC_{ijkn} + \beta_{3l}SIC_l + \beta_{4in}GC_{ijkn} \times SIC_l + \beta_{5i}Competitions_j + \gamma_kYEAR_K + \varepsilon_{ijkl}$$

And in the case of buyers' institutional contexts:

$$P_{ijkl} = \beta_0 + \beta_{1in}GC_{ijkn} + \beta_{2im}PDQ_{ijkm} + \beta_{3l}BIC_l + \beta_{4im}PDQ_{ijkm} \times BIC_l + \beta_{5i}Competitions_j + \gamma_kYEAR_K + \varepsilon_{ijkl}$$

**Testing buyers' expertise about the platform.** As in the case of hypotheses 3 and 4, I also used a mixed-effects model to test hypothesis 5, including, first, the buyers' level of expertise about the platform, followed by the interaction term with platform-designated qualification levels. Next, I present this model equation, where the new term, presented in bold, refers to buyers' level of expertise about the platform:

$$\begin{aligned} P_{ijl} = & \beta_0 + \beta_{1in}GC_{ijn} + \beta_{2im}PDQ_{ijm} \\ & + \beta_{3isjl}BEP + \beta_{4im}PDQ_{ijm} \times BEP + \beta_5Competitions_j + \beta_6Country_l \\ & + \gamma_kYEAR_k + \varepsilon_{ijkl} \end{aligned}$$

## CHAPTER 5

### RESULTS

Table 6 presents the descriptive results and Table 7 the correlations for the overall sample of transactions between buyers and sellers at ACE's online-auctions. From Table 6, one can see that the highest bid a coffee lot has reached is \$80.2 USD in 2008, which belongs to the Guatemalan farm called "El Injerto. In terms of the number of lots auctioned each time, the range has been between 10 and 43 for each auction event. The highest score during the time of these competitions is 95.85 out of 100, which was attained in 2005 by the Brazilian farm called "Fazenda Santa Inês". The buyer acting as judge the greatest number of times is the Japanese company Maruyama Coffee, having participated as judge over 41 times as of the 2011 COE competitions. Although this information is not displayed in Table 6, the company that bought the most number of lots in the online auctions is Wataru & Co, Ltd (also a Japanese company), having bought in excess of 252 coffee lots since the inception of the program. Furthermore, the transaction with the highest number of buyers sharing the winning lot (16 companies) took place in Bolivia in 2005 for the winning coffee lot # 1. Finally, the US and Japan have the highest participation of judges during all competitions.

As Table 7 indicates, there is a high correlation between the variables that capture platform-designated qualification levels and the highest bid, with the variable score showing the highest correlation ( $.57, p < .001$ ), followed by number of coffee qualifiers per lot ( $.47, p < .001$ ). Another variable showing a strong and significant correlation with the highest bid is the variable from the institutional context in selling countries called

prices to growers (.34,  $p < .001$ ). As expected in this type of market, the altitude of the farm is also positively and significantly correlated with price of the coffee (.26,  $p < .001$ ), and the total lots and bags per lot are negatively correlated, although the latter variable is not significant (-.16,  $p < .001$ , and -.012,  $p < .56$  respectively). Regarding possible problems with multicollinearity, some variables do show rather high levels of correlations such that their inclusion within the same models might cause issues of multicollinearity. For instance, indicators of institutional contexts in buyers' countries such as consumption and import levels are highly correlated (.95,  $p < .001$ ), suggesting that only one of these indicators should be included. The correlation between buyers' countries coffee imports and those countries' representations in the COE juries is rather strong and positive (.49,  $p > .001$ ), suggesting that ACE is present in those markets with high levels of coffee imports. Finally, total lots and number of descriptors, one of the main variables measuring platform-qualification levels, show a strong but negative correlation (-.21,  $p > .001$ ). I thus left out total lots when including number of descriptors in the models.

The parameter estimates listed under Model 1 in Table 8 depict all the control variables used in the study that account for competition and auction characteristics, and country and year as categorical variables. Among the control variables, numbers of buyers per transaction is a highly significant variables across the different models tested. In Model 1 or Controls, Guatemala shows a significantly higher effect on price in comparison with the rest of the countries ( $\beta = 0.37, p < .001$ ).

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Insert Tables 6,7, and 8 about here

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**Platform Mediation Effects**

The rest of the Models in Table 8 report the estimates for the Models used to test hypothesis 1 of the mediation of platform-qualified level. Hypothesis 1 states that platform-qualified levels will mediate the relationship between goods' characteristics and the economic value paid by the buyers. Following the traditional steps to test for mediation (Baron & Kenny, 1986; MacKinnon et al., 2007), Model 2 in Table 8 reports the first step of testing for mediation, in which the independent variables and the control variables are regressed on the highest bid. Models 3 and 4 report the control and independent variables using the mediators as dependent variables. Model 5 presents the control variables, independent variables, and mediators regressed on the highest bid. Lastly, Model 6 depicts the relationship between control and mediators on the highest bid. Model 2 shows that altitude ( $\beta = 0.24, p < .001$ ), coffee varieties such as Caturra, Bourdon, and Catuai ( $\beta = 0.37, p < .001, \beta = 0.22, p < .1$ , and  $\beta = 0.26, p < .05$  respectively), and number of bags and proportion of land used to grow coffee ( $\beta = -.11, p < .05, \beta = -0.08, p < .01$ , respectively) have a significant effect on the highest bid. Model 5 shows that most of these significant relationships remain significant. Additionally, the phenomenon of reduced significance is seen in a range of other variables, such as in the proportion of land used to grow coffee and in the rest of coffee varieties. Regarding the mediators' effects on the price, score shows the strongest effects in comparison to the number of coffee descriptors ( $\beta = .47, p < .001$ , and  $\beta = .06, p < .1$ , respectively).

In support of hypothesis 1, when comparing the absolute values of the above parameters, I find a reduction in the independent variables' effects on price when adjusted for the platform-qualification levels, suggesting a mediation effect. More precisely, using Models 2 and 5, it is also possible to compute the mediated or indirect effect and test for its significance using Sobel's (1982) test for the significance of the mediation. Because there are many significant variables and two mediators (score and descriptors), I use the independent variable with the strongest significance level (altitude) to test for the significance of the mediators. The Sobel test statistic for the mediator score is 4.81 with  $p < 0.001$  (Soper, 2013), suggesting a highly significant mediation effect. With regard to the descriptors, the Sobel test statistic is 2.67 with  $p < 0.01$  (Soper, 2013), suggesting a less significant mediation effect. Therefore, it can be concluded that there is statistically significant evidence to support both—score and descriptors—mediating effects; however, score shows a stronger significant mediating effect than descriptors does. Finally, because the coefficients in Model 2 are significant and the mediating effects are also significant, there is evidence for partial mediation (MacKinnon et al., 2007).

### **Platform Tenure Effect**

Table 9 introduces the Models to test the effect of platform tenure suggested in hypothesis 2. This hypothesis states that tenure of platform will moderate the effect of platform-designated qualification levels on the price paid by the buyers. Models 7 and 8 test the moderation effects of tenure of platform and platform-designated qualification levels (score and descriptors) on the price of the products. Model 7 shows that there is a

direct effect of tenure of platform on price ( $\beta = .25, p < .01$ ). Model 8 shows that the effect of platform-designated qualification levels—score and descriptors—on the price varies as tenure of platform also varies. In both cases, when tenure of platform increases, the effect of score and descriptors on prices also increases ( $\beta = .14, p < .001, \beta = .06, p < .05$ , respectively). Regarding the score's and descriptors' direct effects when including tenure of the platform, the score's effect remains positive and significant ( $\beta = .48, p < .001$ ), as well as the descriptors' effects ( $\beta = .1, p < .01$ ). In conclusion, Models 7 and 8 show empirical evidence to support hypothesis 2.

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Insert Table 9 about here

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### **Sellers' and Buyers' Institutional Contexts**

Models 9 to 14 in Tables 10 and 11 present the results of the interaction effects and regression analyses to test hypotheses 3 and 4. Briefly, hypothesis 3 states that levels of product importance in sellers' institutional contexts will affect the relationships between goods' characteristics and platform-designated qualification levels. As mentioned in the Methods section, I used macro variables related to coffee at country levels to capture the level of importance of this product. Models 9 to 12 use coffee exports at the country level to capture this level of importance. With regard to score as one of the platform-qualifiers, no significant direct effect of coffee exports on score is found. However, as shown by Model 10, the inclusion of interaction effects of coffee exports and goods' characteristics does affect other variables parameters and some of

these interaction effects are significant. For instance, the effect of certification also changes according to the level of coffee exports. That is, in comparison with the Rain Forest certification, not having a certification seems to positively affect the score levels ( $\beta = .03, p < .05$ ). The same seems to occur for the organic certification ( $\beta = .04, p < .01$ ). Remember that certification is defined here as a more tradition-based goods' characteristics. Regarding coffee varieties, a more scientific-based goods' characteristic, the addition of the interaction effects with coffee exports and goods' characteristics seems to affect the level of significance of the variety Caturra, because as Model 10 shows, this variable becomes non-significant.

Regarding number of descriptors as the second platform-designated qualifier, Model 11 shows that the institutional context—that is, the level of coffee exports—has a significant and positive direct effect on the number of descriptors ( $\beta = .4, p < .01$ ). Moreover, when including the interaction effects between goods' characteristics and level of coffee exports in Model 12, the variable processing (which is defined as a scientific-based characteristic) becomes significant. That is, in comparison to solar-dried based processing systems, conventional and natural processing methods negatively affect the number of descriptors ( $\beta = -2.08, p < .001$ , and  $\beta = -3.02, p < .01$ ). Concerning the interaction effects, Model 12 also shows that the effect of certification and processing methods on descriptors seems to depend on the level of coffee exports. Hence, for contexts with a high level of coffee exports, having an organic certification is positively related to the number of descriptors ( $\beta = 1.3, p < .001$ ).



In conclusion, Models 9 to 12 do provide some statistically representative support in favor of hypothesis 3. That is, the sellers' institutional contexts does seem to moderate the relationships between goods' characteristics and platform-designated qualifiers. This moderation seems stronger with regard to the number of descriptors provided by the platform. Less clear is the direction and effect of such interaction on the type of goods' characteristics, be these scientific or tradition-based characteristics.

In hypothesis 4, I argue that buyers' institutional context will moderate the relationships between platform-designated qualifiers and economic exchange value. Models 13 and 14 in Table 11 show the results of testing this hypothesis. I use the level of coffee consumption at the country level as a proxy to capture the level of institutional importance of coffee. Model 13 shows the parameters of the variables when running the model with the direct effect of the level of coffee consumption in buying countries. This Model suggests that the direct effect does not have a significance level low enough to be considered significant. Model 14 presents two interaction effects: level of coffee consumption and score, and level of coffee consumption and descriptors. The only interaction term to be significant is the level of coffee consumption and score ( $\beta = .08, p < .1$ ), suggesting that the effect of score on price varies depending on the level of coffee consumption in the buying country. In conclusion, it is therefore possible to say that hypothesis 4 is partially supported. That is, buyers' institutional contexts are affecting the relationship between one specific platform-designated qualifier—score—and economic exchange value. However, the evidence does not support the assertion that more qualitative platform-qualifiers will affect economic exchange value differently.

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Insert Tables 10, 11 about here

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### **Buyers' Level of Expertise about the Platform**

The last hypothesis that I test in this dissertation is hypothesis 5, which states that buyers' level of expertise about the platform will positively moderate the effects of platform-designated qualifiers on economic exchange value. Recall that I measure buyers' level of expertise about the platform by counting the number of times that a specific buyer has previously acted as a judge in different competitions. Table 12 introduces Models 15 and 16, which are used to test hypothesis 5. Model 15 shows the direct effects of platform-designated qualifiers—score and descriptors—and buyers' level of expertise about the platform on economic exchange value. All three direct effects are significant, although at different levels. Score is the highest, buyers' levels of expertise in the platform is the second highest, and descriptors is the least significant ( $\beta = .46, p < .001$ ,  $\beta = .05, p < .05$ , and  $\beta = .06, p < .1$ , respectively). Model 16 introduces the interaction effects between buyers' levels of expertise about the platform and platform-designated qualifiers. Both interaction effects—score and descriptors—are significant ( $\beta = .23, p < .001$ , and  $\beta = .06, p < .1$ , respectively). I therefore conclude that there is enough statistical significant evidence to support hypothesis 5.

Table 13 presents a summary indicating which hypotheses received statistically significant evidence and which ones did not. Overall, the mediator effect of platform-designated qualifiers was statistically significant, as well as the moderator effect of

platform tenure (Hypotheses 1 and 2). Although the interaction terms testing the effect of the contextual variables were statistically significant, there was a lack of evidence to support the hypothesized directions (Hypotheses 3 and 4). Finally, the interaction effect of buyers' expertise on the platform was statistically significant.

A note about post hoc analyses is worthwhile. I ran additional models with variables that I measured but which I did not include in the discussion of the results (items such as price for growers and buyers' countries' representation in the jury for competitions). The effect of not including price for growers is that results were borderline non-significant. Furthermore, buyers' countries' representation in the jury was not included due to results that were very similar to the Models 15 and 16, suggesting that little additional insight could be coaxed from said variable.

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Insert Tables 12 and 13 about here

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## CHAPTER 6

### DISCUSSION

Since its early conceptualization, economic value has been related to economic and social exchanges—in other words, to markets. Among other conditions, markets can take place because social actors not only develop different wants and desires but also have a common and self-reproduced framework of reference so that agreements regarding exchanges are possible (Callon et al., 2002; Fligstein & Dauter, 2007; White, 2002). Because of its relevance to markets and organizations alike, and its multi-dimensional scope, economic value has received considerable attention from scholars seeking to understand its nature, creation, transformation, and, in general, its development (e.g., Beckert & Aspers, 2011; Bowman & Ambrosini, 2000; Lepak et al., 2007; Lindgreen & Wynstra, 2005; Priem, 2007). Nevertheless, within this long research tradition, economic value is far from being fully understood. Changes in technology, consumption habits, and communications patterns affect markets and social actors' understanding of economic value. Conceptualization of economic value thus needs to reflect these changes as well. Scholars in sociology and organizational theory have developed alternatives in which economic value is studied through an emphasis on meanings of goods for actors, and on social and institutional structure of markets (e.g., Beckert & Aspers, 2011; Khaire & Wadhvani 2010; Zajac & Westphal, 2004).

This dissertation has been developed with the goal of contributing to the academic dialog on economic value at the market level. To do so, I draw on the role of one particular market intermediary that has been gaining considerable research attention

called platform organizations. Although platforms can take different shapes and play different functions (Baldwin & Woodard, 2009), the type of platform I study in this dissertation supports direct exchanges of goods between not only sellers and buyers but other actors that play important market roles, such as experts and governmental institutions. I focus on two specific dynamics that take place in the platform but that haven't received much attention; specifically, I focus on the creation of frameworks of reference to create commensurability among products traded in the platform, and the idea that participants' level of expertise about the platform will affect the economic exchanges in the platform. I found that these two dynamics influence the economic value exchanged in the platform. As theoretically suggested by my hypotheses, with regard to commensurability, I found that quantitative and, to a lesser extent, qualitative qualifiers provided by the platform (partially) mediate the exchanges between sellers and buyers. These qualifiers seem to be playing important roles as promoters of exchange, similar to a product transformation or product qualification (Callon & Muniesa, 2005; Callon et al., 2002). Moreover, with the passing of time, the effect of these qualifiers is intensified and consolidated as institutional theory and processes of sedimentation would suggest (Khair & Wadhvani, 2010; Tolbert & Zucker, 1996).

Regarding participants' expertise about the platform, this dissertation relates to the idea that third parties, besides sellers and buyers, are fundamental components for exchanges to occur (Khair & Wadhvani, 2010). Among other types, these third party actors include critics, experts, governmental institutions, general media, and social activists, among others, which have the power to reshape perceptions about products and

services (Khaire & Wadhvani, 2010; Schultz, Marin, & Boal, 2013). These third parties also have the capabilities to reduce uncertainty in the market and create a sense of trust in products and services (Karpik, 2010). Regarding the platform here studied, this third party is composed of judges cupping coffee lots and providing scores and descriptors. Because these judges are in some cases the posterior buyers, there is a process of co-elaboration between sellers and buyers (Callon & Muniesa, 2005). I use buyers' participation as judges in previous competitions as a creator of expertise about the platform, which I hypothesize acts as a mechanism that creates trust between buyers and the platform. I found that for those buyers who have acted as judges, the scores and descriptors have a stronger effect on the price paid for the coffee lots than for those buyers who have not done so.

These findings make several broader contributions to the growing stream of research on value and value creation (Amit & Zott, 2001; Lepak et al., 2007; Tsai & Ghoshal, 1998), platform organizations and multi-sided markets (Boudreau & Hagiu, 2009; Hagiu, 2007; Zhu & Iansiti, 2012) and experiential products (Brush & Artz, 1999; Klein, 1998; Ponte & Gibbon, 2005). In particular, this dissertation contributes to an understanding of socio-cognitive arrangements affecting economic value, and it casts light on the complexity behind processes of product valuation in an internationalized market such as the coffee industry. In this section, I elaborate on each of these contributions, and I conclude by acknowledging the limitations of this dissertation and indicating the opportunities for future research.

## **Value creation in Inter-organizational Exchanges**

The dissertation's central contribution is in elaborating on what can be called antecedents of value creation in inter-organizational exchanges. Scholars within the research tradition on value creation (Lepak et al., 2007; Priem, 2007) have theorized that value creation depends on a recursive interaction between use value and economic exchange value. That is, value is created to the extent that a user or target actor increases the subjective evaluations toward a product or service and that this actor is willing to give up resources in order to engage itself in some kind of exchange to obtain the product or service in question. These scholars also acknowledge that value creation is a multilevel phenomenon with actors located at individual, organizational, or societal levels (Lepak et al., 2007). At the organizational level, it is recognized that not only the supply but also the demand side influences value creation (Priem, 2007). Yet scholars still understand relatively little about how interactions of market actors unfurl to thrust the value of a product upward or downward. This dissertation contributes to scholars' understanding of this interactive process by suggesting that an important antecedent of economic value in inter-organizational exchanges is the development of valuation systems rooted in creating commensurability among different products by different actors involved, directly or indirectly, in the commercial exchanges (Callon et al., 2002). This valuation system at the same time needs to be reliable, legitimate, and trustworthy; otherwise, its self-reproduction is at risk of failure.

At the base of any commensuration process is the transformation of different characteristics or qualities into quantities that allow determining magnitudes (Callon et

al., 2002; Espeland & Stevens, 1998). This transformation and subsequent magnitude calculation enable people to quickly grasp, represent, and compare differences, making possible, among other things, the creation of new market niches or categories (Callon et al., 2002; Espeland & Stevens, 1998). Scholars studying forms of commensuration argue that at least four dimensions can be identified (Espeland & Stevens, 1998). First, commensuration processes vary in how technologically sophisticated they are. Second, they vary in how visible or explicit they seem to be. Third, modes of commensuration can be more or less institutionalized. Finally, commensuration processes vary according to who can and who cannot participate; in other words, who their agents are.

Through examination of Cup of Excellence and the posterior online-auctions, this study shows that commensuration processes can be created between suppliers and buyers that are organized by a central organization with the power to determine who establishes the rules for participation for both suppliers and buyers. At the same time, this organization creates different levels of expertise among the buyers that participate in the platform because it opens its modes of commensuration (i.e., score and descriptors) to the organizations participating in the coffee market as buyers. Regarding institutionalization levels, I also show that the passing of time affects the relationship between modes of commensuration and economic exchange values, suggesting that buyers seem to positively respond to scores and descriptors the more these are established. However, it is also important to mention that the mediation test shows a direct effect of goods' characteristics such as altitude, some of the coffee varietals, and lot characteristics such as size--similar to characteristics of wines (Ashenfelter, 2008; Ashenfelter, Ashmore, &



Lalonde, 1995). The direct effect therefore suggests that although modes of commensuration, such as score and descriptors, have the capacity to transform the products and make them more uniform, buyers are still paying attention to individual characteristics of the products.

This dissertation also shows that valuation systems, such as the score and coffee descriptors, affect economic exchange value differently depending on the broader institutional context in which the buyers are embedded (Lepak et al., 2007; Suddaby, Elsbach, Greenwood, Meyer, & Zilber, 2010). Depending on their individual knowledge, which could be influenced by their national context, buyers evaluate differently the information provided by the score and the descriptors (Suddaby et al., 2010). More specifically, this dissertation found that buyers located in contexts characterized by higher levels of coffee consumption seem to believe more in the score and therefore are willing to pay more for certain coffee lots with higher scores than those buyers in contexts with lower levels of coffee consumption. In a similar vein sellers' institutional contexts might also affect how commensuration processes unfold. This study shows that certification and processing systems tend to affect commensuration processes differently depending on the level of coffee exports of the growing country. There is a positive relationship between organic certification and both score and descriptors when coffee exports of the selling country were higher. Moreover, with regard to descriptors, more conventional processing systems tend to have a negative relationship with the number of descriptors per coffee lot compared to methods including sun drying techniques.

In conclusion, this dissertation shows how commensuration modes have the capacity to create value because on one hand they provide tools for users to better understand the use value from the products subject to the commensuration process. That is, because commensuration translates single and individual goods' characteristics into a common metric easy to retrieve and apply, the subjectively realized use value seems to emerge more naturally. On the other hand, the direct participation in the creation of the commensuration process by some of the users provides the validation of the expertise and trust needed for these users to be willing to engage in economic exchanges.

### **Platform Organizations and Markets**

Recognizing that commensuration modes can create value when suppliers and buyers exchange products and services helps explain additional roles that platform organizations can play at market levels and that have not been much acknowledged in the literature on these type of organizations. Extant literature on platforms at the market or industry levels portrays this type of organization as located at the intersection of different groups of actors that are unified by the rules and as a coordination of an interface provided by the platform (Baldwin & Woodard, 2009; Gawer, 2009b; Zhu & Iansiti, 2012). Contexts in which these different groups or actors exist are the so-called multi-sided markets (e.g., Rochet & Tirole, 2006). At this level of analysis, the emphasis seems to be on strategies such as pricing mechanisms (Rysman, 2009), level of openness, exclusivity, compatibility (Hagiu & Lee, 2011; Rysman, 2009), and competition among platforms (Eisenmann et al., 2011; Zhu & Iansiti, 2012). A few exceptions start by highlighting that platforms in multi-sided markets perform a variety of functions besides

pricing strategies and level of openness mechanisms to coordinate the different sides of the markets (Bohne, 2011; Boudreau & Hagiu, 2009).

This dissertation studies a case of competition on both sides of the market: that is, a two-sided market. On one hand, growers compete to garner recognition as being among the best coffee producers in their country in a given year. On the other hand, buyers compete with each other in an auction-format market to have access to these unique coffee lots. Among other things, this dissertation contributes to an understanding of platforms as intermediaries in markets in which the platform controls the commensuration system. As with any other platform, there are components of the system or strategy that have low variety and high reusability, and another set with high variety and low reusability (Baldwin & Woodard, 2009). The first set of components is what is usually called “the platform” (Baldwin & Woodard, 2009: 25). In this dissertation, cupping protocols (see Appendix) could belong to the set of components that have low variety and high reusability and stability, while the sellers and buyers participating in the competitions, jury, and online auctions might belong to the set of high variety and low reusability components. Platforms are located at a place in the market from which it is possible to establish systems of commensuration because platforms implicitly coordinate exchanges between different groups of actors that want to interact and realize exchanges.

The creation of these commensuration systems is not free from political and power struggles (Espeland & Stevens, 1998) as well as some platforms’ rules (e.g., Antitrust lawsuits brought against Microsoft by the US Department of Justice and the European Commission) (Gawer, 2009a). On one hand, some proponents see

commensuration as a technology for inclusion. Commensuration techniques offer broadly legitimate devices for conferring neutral and formal parity in an unequal world (Espeland & Stevens, 1998). On the other hand, critics see commensuration as another conduit of power that tends to mystify power relations, partly by emphasizing results at the expense of process and distribution (Chelli & Gendron, 2013; Espeland & Stevens, 1998).

In a similar vein, platforms are also subject to criticism, partly because they can occupy dominant positions and are able to exert too much control over their participants' behaviors. The platform that I study in this dissertation is not free of criticism. Among other reasons, it has been acknowledged that coffee competitions and posterior online-auctions tend to inflate the price based on small quantities more than because of the coffee qualities (Knox, 2006). Indeed, my results show that size of the lot negatively affects price paid at the auctions. Nevertheless, a debate on positive and negative consequences of platform organizations is beyond the scope of this dissertation; the objective here is to draw a parallel between the power that both commensuration and platform hold in the marketplace.

Finally, this dissertation also contributes to the platform literature because it studies a case in which a platform-based market was created in a rather well-established commodity industry (i.e., the coffee industry). Platform literature has been anchored in technology and IT- based contexts such as software, video games, and DVD players, among others (Boudreau, 2010; Corts & Lederman, 2009; Dranove & Gandal, 2003; Rysman, 2009). Other research streams in platforms have started to use e-business models such as e-Bay and Amazon the retail industry in general (Boudreau & Hagi, 2009).

2009; Eisenmann et al., 2011) to show, among other things, the diversity and types of platforms. The case that I study here shows that a platform, with similar characteristics to other platforms, can be created in a rather traditional industry such as the coffee industry. Thus, this platform has faced challenges similar to those experienced by other platforms. The challenges include fundamental problems such as which price structure to establish, how to control participation in the platform, and how to gauge change and stability in platform participants' practices, among other questions. At the same time, however, this case illustrates different facets of managing a platform that have not been studied much. Novel phenomena of interest include the creation of commensuration systems, such as scores and descriptors, and establishment of dual-role participants, such as judges and buyers. This dual-role of judges and buyers could be seen as an attempt to reduce possible network-effects (Katz & Shapiro, 1994) between judges and buyers. Because the group of buyers partially depends on the criteria of coffee judges in the competitions, a way of controlling this externality is to allow and even entice buyers to participate as judges.

### **Experience Products and their Qualification**

Understanding additional roles played by platforms at the market level also offers insights into the product classification based on information such as the one used in this dissertation. I refer to the search, experience, and credence typology of products (Darby & Karni, 1973; Nelson, 1970). As acknowledged in the theoretical development of this dissertation, coffee shows all three characteristics, yet especially in the case of specialty coffees, experience and credence attributes become dominant. Moreover, with regard to

experience and particularly to credence attributes, trust in the information provided becomes key (Ponte & Gibbon, 2005). The reason is that in experience and credence attributes, there is a gap of time between purchase and verification during which the product indeed has the characteristics that the seller claims it has (i.e., flavor characteristics, organic or not organic, etc.). For credence attributes, there might be the case where the buyer never verifies the claimed characteristics. Information disclosure thus becomes relevant for these types of attributes in ways similar to online markets, in which consumers benefit from extensive information provided (e.g., Amit & Zott, 2001).

This dissertation shows that platform organizations provide venues to make information available related to scores and descriptors of product quality and performance. Platforms also provide the interface to upload additional information on the products' characteristics. Therefore, products are fluid conceptualizations that go from being credence to search, and experience, or vice versa, depending on the available information. Related to this product flux along a continuum of product attributes is the concept of product qualification, as discussed in the theoretical portion (e.g., Tregear et al., 2007). In this dissertation, I illustrate platforms as places in which this product qualification can take place or in which it may not. In this product qualification different participants need to follow certain rules and procedures set up by platform managers. Regarding the level of technicality of different modes of commensuration, in this study, the score shows a stronger relationship with economic value than with the less technical commensuration system provided by the coffee descriptors. A possible explanation could be that the market of specialty coffees is relatively new in comparison, for instance, to

that of fine wines. Thus, the actors in this market follow the score because it provides a clearer measure to compare a specific product to others.

Finally, it is also important to mention that platforms have the power to generate not only the arrangements that allow product qualification, but also those that make it impossible. In the case studied in this dissertation, the platform has been arranged so as to discourage competitions of coffee lots among growing countries; rather, it mainly supports coffee growers' competitions within the same country. This is then an example of the establishment of the so-called "incommensurables" (Espeland & Stevens, 1998). The reasons behind establishing something incommensurable can range from being highly strategic to being highly unconscious. Among other reasons, in this case Cup of Excellence is held within particular countries because the governmental institutions that promote these competitions want to promote their own respective origins without entering to compete among countries. However, independent of the reasons for denominating something incommensurable, it is important to recognize that this category also expresses core values and signals how people should view the comparison of coffees from different countries, which in this case tends to be discouraged.

### **Limitations and Future Research**

Finally, the limitations of this dissertation provide opportunity for future research. In this section, I discuss these limitations and also point out possible avenues to address these limitations to expand the work begun here. I have organized these limitations in four categories: first, ontological assumptions of value; second, data sources and measurement; third, correlations no causation; and fourth, generalizability.

### ***Ontological assumptions of value***

As mentioned in the literature review on economic value, economic value has been extensively researched in different academic fields. It is thus expected that different theoretical and ontological perspectives be developed when studying economic value. Given this plurality, it is worthwhile to recognize and discuss the key ontological assumptions upon which the theories of valuation that I use in this dissertation are based. While doing so, it helps to organize the assumptions when studying economic value following two dimensions. The first dimension refers to the type of source of value or, in other words, where value is derived from. These sources can be arranged in two groups. On one hand, value is derived from a comparative mechanism in which products are organized in relation to one another. On the other hand, there is an assumption of intrinsic value of objects. The second dimension refers to the evaluation process, or how market participants arrive at their judgments of the value of a good. This dimension ranges from a relational or negotiated system to a more individual system in which participants independently determine their judgments about goods.

Putting these two dimensions together, we have four different scenarios that provide ontological assumptions regarding how scholars might conceive value (See Figure 4). The first scenario in Figure 4, shows the intersection between a comparative mechanism to derive value and a relational process in which market actors engage themselves. The second scenario refers to the assumption of an intrinsic nature of the value of objects and a relational process through which actors arrive at value perceptions. The third scenario is the interaction between a comparative drive of the nature of value



and the individual process of formation of judgments about value. The fourth scenario refers to situations in which it is assumed that value is intrinsic to the objects and that there is an individual process of judgment formation.

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Insert Figure 4 about here

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This dissertation is located in the first scenario presented in Figure 4, in which the assumptions are that the sources of value are derived from a comparative mechanism among goods and a relational process among market actors. It is therefore worthwhile to acknowledge that this dissertation assumes that the sources of value in goods are derived from comparative processes, that market actors negotiate perceptions of value, and that they arrive at their judgments of value through a relational process instead to an individual one. However, these comparative processes are not the only way when studying value. As also presented in Figure 4, other theoretical frameworks with other assumptions have also cast light on processes of valuation of products. Future studies could explore further the implications of each of these assumptions and examine whether industry/ market conditions influence the extent to which these assumptions take place, if at all.

### ***Data Sources and Measurement***

Of secondary concern, this study relies heavily on archival information provided by the platform here studied and on archival information on macroeconomic variables at the country level, such as imports and consumption levels of coffee. Although research

has long supported the use of archival research methods (e.g., Ventresca & Mohr, 2002), it is possible that the use of information available on the ACE website is not capturing interesting nuances. Although I conducted interviews with ACE managers and other knowledgeable people in the coffee industry, and also visited the Colombian competition during a week in 2012, the hypotheses were tested using exclusively the information available on ACE upon registration. Future research could overcome this limitation by consulting additional sources about the impact of the coffee competitions and online auctions. For instance, trade magazines related to specialty coffees and general press-related articles can provide rich information about how market actors react to these coffee competitions and online auctions. Moreover, there has been an increase in the number of other quality-based competitions in the coffee industry. This might signal platform competition and therefore additional research opportunities.

Related to the use of archival information is the measurement of key variables used in this dissertation. For instance, I recognize that additional information could be extracted from the qualitative descriptors provided for each of the coffee lots in the competitions. As used here, the summation of the total of such descriptors is but one way to quantify these descriptors; other ways could be using content analysis techniques to find different dimensions. Another area of improvement is in the classification of goods' characteristics. Here, I used a tentative division with preliminary evidence in the wine industry (Zhao, 2008). However, the results seem to be difficult to interpret. An alternative could be to use a different classification of goods' characteristics following an

alternative theoretical framework. Further research could provide additional guidelines in this regard.

Regarding the second independent variable of interest in this dissertation, the behavioral measurement of buyers' expertise on the platform (i.e., frequencies of buyers acting as judges in previous competitions), might be capturing other dimensions related to but different from expertise, such as reciprocity or senses of ownership (Ben-Ner & Halldorsson, 2010). Other buyers might have high expertise on the platform but may not act as judges because of schedule conflicts, lack of interest, or simply because they do not find it necessary. Moreover, at the transaction level, I am emphasizing buyers' behaviors towards the platform, and I am not incorporating the other side of the market, which in this case refers to sellers or coffee suppliers. The reason is that the pricing structure established in this market makes buyers the most susceptible to general vulnerabilities inherent to any given platform. At the platform level, the construct platform tenure might be capturing the extent to which governmental institutions trust ACE to do a good a job. The caveat, however, is that, once again, not having a competition in a given year does not mean the governmental institution does not trust ACE; other reasons may have interfered (e.g., political, economic, etc.) to make it impossible to organize the competitions. Future research could develop alternative measures of buyers' expertise using survey data, and could also include others participants' perceptions and attitudes towards the platform, such as commitment, which applies more to sellers.

Other constructs that might suffer when using archival data and single indicators are the sellers' and buyers' institutional contexts. In the past, scholars using institutional

contexts have used survey methods to capture the three dimensions of regulatory, cognitive, and normative country-level systems (Kostova, 1997; Kostova & Roth, 2002). One of the limitations of survey data is that it is difficult to capture longitudinal data because of the low response rate when extending the study and including different periods of time. However, the measure used in this dissertation to capture the level of importance of coffee, although it allows for an analysis through time, is rather uni-dimensional in that it is based on economic and productivity country-level conditions. Future research could explore richer measures of institutional conditions that might affect exchanges in the platform. For instance, an avenue to explore in the future is to study how new locations incorporate the idea of hosting coffee quality competitions. Mexico and Burundi are two of the most recent locations added to the portfolio of growing countries hosting these competitions. It would thus be insightful to study how the governmental institutions that usually bring Cup of Excellence into the specific country frame these competitions within the overarching institutional environment of the industry, which actors are invited, and how the different performances are celebrated. To do so, a more in-depth case analysis would be needed, following certain guidelines such as ones measuring institutional meanings structures and their change (e.g., Mohr, 1998).

### ***Correlations no Causation***

I acknowledge that the relationships described between the constructs of interests are based on correlation and that this dissertation does not attempt to make causal affirmations. Nevertheless, I do recognize a future avenue to explore regarding how this particular platform might be changing the contexts it attempts to coordinate. For instance,

a more in-depth study of the data suggests that in recent years, companies from coffee-growing countries such as Brazil, Guatemala, Honduras, El Salvador, Colombia, and Nicaragua have begun participating as buyers of some of the coffee lots. Although the majority of these companies buy coffee from their own countries, in other cases, one can find in recent years, for instance, a Nicaraguan company buying coffee in a Guatemalan auction, among other examples. Another way of analyzing the impact of the platform in the context is to analyze the jury's country distributions in terms of coffee-growing countries' participation in the jury selection.

It would be also insightful to analyze the changes in terms of the products exchanged in the platforms due to previous winners' characteristics. That is, an analysis of any changes in goods' characteristics and farmers' characteristics, such as coffee varieties, altitude levels, processing systems, and regions where farmers are located due, at least partially, to previous competitions' winners. There is some evidence that these competitions work as mechanisms to find unique characteristics in the products that have previously unknown or hidden. For instance, in one competition similar to Cup of Excellence called "The Best of Panama," it is recorded that in 2006, a farm with a coffee variety called Geisha broke the world price record at \$99.99 a pound of green coffee (Winner, 2007). Since then, Geisha coffee has gained recognition and popularity in the market.

### ***Generalizability***

A third limitation involves external validity due to my use of one specific platform to illustrate my theoretical framework and test my hypotheses. Moreover, the

diversity of the literature and examples of platforms could imply that platforms evoke the use of the same word to mean different things, making difficult the construction of a coherent and scientific body of knowledge. However, a stream of research does argue for some important similarities among different types of platforms that make more generalizable the results from one study to other types of organizations following a platform-based architecture (Baldwin & Woodard, 2009). These important similarities correspond to the idea that platforms partition a system in low variety and high reusability on one hand and, on the other, high variety and low reusability (Baldwin & Woodard, 2009). With these similarities in place, the results here described can be translated to other contexts in which similar driving forces are: the need to induce coordination among two or more groups of agents around a rather stable set of premises on what to coordinate, but in which all agents collectively participate.

To illustrate such cases in which a similar method of organization is in place, TopCoder, a vendor of outsourced software projects, is a platform comparable to ACE, yet consists of other unique characteristics. TopCoder is a platform that effectively brings together buyers of software on one side of its platform, and on the other, it has a stable of roughly 20 000 actively contributing developers spread across 200 countries (Boudreau & Hagi, 2009). TopCoder brings buyers and sellers together organizing its community of software developers through regular competitions to provide solutions to individual software buyer demands. Among other things, TopCoder bases its services on a competition system in which winners receive monetary awards and points that later become part of their record as a competitor's skill rating (Leibs, 2008). In a vein similar

to ACE, TopCoder has developed a stream of formal and objective testing measures for each of its contests and is thus able to assign objective scores on the code created by every competitor. Moreover, there is a panel of judges who also belong to the community of software developers. With both similarities and differences, TopCoder shows that the competition-based organization illustrated in this dissertation can be found in other diverse settings and industries such as software development. Nevertheless, with regard to other settings, scholars should avoid overgeneralizing this dissertation's findings beyond the particular characteristics pertaining to this case study.

## **CHAPTER 7**

### **CONCLUSION**

In this dissertation, I set forth a research project on the role of platform organizations in economic exchanges. To do so, I have explored the case of one platform organization intermediating exchanges in the market of specialty coffees. In this section, I review the four contributions of this dissertation, which although highly interrelated, can be separately identified as: 1) mechanisms of value creation in inter-organizational exchanges, 2) underrepresented roles in research in platforms and platform-organized markets, 3) an examination of how exchanges realized in a platform might be affected by institutional forces, and 4) mechanisms of product qualification within a case of an experience product.

#### **Summary of Contributions**

First, drawing upon sociological theories of value, valuation, and markets, I add insights to the perspective that valuation in markets is a fundamental process of social and economic organization. In particular, I show how at the organization level, sellers and buyers can interact following certain established rules by a neutral organization so that socio-cognitive devices situating the different products in relation to one another can be established. In the case of specialty coffees, these socio-cognitive devices make coffee lots not only comparable to other existing coffees, but they also make these lots differentiable so that new market niches are constructed (Callon et al., 2002). This dissertation also discusses the importance that these socio-cognitive devices be trustworthy, among other things; otherwise, their self-reproduction may be questionable.



Finally, the establishment of these socio-cognitive devices for product valuation at the market level reminds us that use value and exchange value, although the two different dimensions of value, are tightly interconnected.

Second, this dissertation studies platforms as mechanisms that establish structures of valuation at the market level. Platforms are actors located at the intersection of different interests groups in which both collaboration and competition can be crucial. Moreover, increasingly, a larger number of markets today are being organized following a platform-based approach in which multiple parties engage in all kinds of exchanges (Boudreau, 2010; Eisenmann et al., 2006; Zhu & Iansiti, 2012). Drawing on institutional theory and relationship marketing, I therefore contribute to a better understanding of platform-based market interactions. In this dissertation, I highlight two important roles that have not been acknowledged much. First, platform organizations create valuation systems that help market participants compare products and locate them in a common space and by a common metric. Second, platform organizations have the potential to produce different degrees of expertise about the platform, particularly because, to a certain extent, platforms have the capacity to control who participates in the platform. In this particular case, the platform is partly incentivizing different levels of expertise because buyers in the platform can participate as judges of the products traded in such interface. In this way, this platform might be managing possible expectations created from the interdependence between judges and buyers, and possibly controlling network-effects between judges and buyers.

Third, the theoretical model and empirical findings in this dissertation examine the influence of broader contextual forces, such as the importance at the country level of the particular product transacted in the platform. That is, my results show that sellers' and buyers' institutional contexts indirectly affect the exchanges in the platform. Buyers located in contexts in which the product of interest is important tend to value differently the information provided by the platform compared with buyers located in contexts in which the product is less important. I also found empirical evidence that suggests that the sellers' contexts might be influencing how the platform develops the commensuration processes. Future studies can also track down mutual influences between platform and sellers' contexts to show two- way interactions and driving forces.

My fourth and final contribution relates to a better understanding of product qualification processes using coffee as an experience product. Because it can be categorized as an experience good, the valuation of coffee comes through experience. Yet if that is the case, the order in the market is difficult to establish: who says that X is a better coffee than Y when it is through individual experiences that buyers define that? In this dissertation, I show that the platform is providing the common framework so that both sellers and buyers may compare and hence qualify products exchanged in the platform. I find that more quantitative qualifiers have a stronger correlation with prices than more qualitative qualifiers. Future research could focus on understanding in which contexts different qualifiers receive more importance and why (e.g., Zhao, 2008).

Processes of valuation are ubiquitous in organizations, markets, and societies in general. Recently, scholars have increasingly focused on a better understanding of

phenomena such as practices of valuation and valuing designs as well as theories of valuation from interdisciplinary perspectives. Indeed, a better understanding of how modern markets establish systems of valuation is of key interest to management and business scholars alike. This dissertation illustrates a system of valuation derived from a platform organization that coordinates exchanges at the market level, indicating important yet less well-understood market roles that these types of organizations perform. Future progress in this research stream can continue to the extent that scholars recognize similarities and differences among platform organizations and their variety of roles in modern markets, and are able to integrate them with mainstream theories in management and organizational studies.

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**TABLES***Table 1 Different typologies of value*

<b>Author(s) (year)</b>	<b>Types of value</b>	<b>Underlying criterion</b>
Aristotle (Politics)		
(Ekelund & Hebert, 1997)	1) Used value: related to the primary use of objects and 2) Exchange value: the one that allows trade to happen	Use
Miles (1961)	1) Use value: the properties and qualities, which accomplish a use, work, or service. 2) Esteem value: the properties, features, or attractiveness, which cause a want to own it. 3) Cost value: the sum of labor, material, and various other costs required to produce it. 4) Exchange value: its properties or qualities, which enable exchanging it for something else that is wanted.	Use, cost, meaning
Bowman & Ambrosini (2000)	1) Use value refers to the specific qualities of the product perceived by customers in relation to their needs... 2) Exchange value refers to price. It is the monetary amount realized at a single point in time when the exchange of the good takes place." (p. 2-3) "3) New use value creation derives from the actions of people in the organization working on and with procured use values " (p.5)	Use
Woodall (2003)	1) Net value: balance of benefits and sacrifices, 2) Marketing value: perceived products attributes, 3) Derived value: use/experience outcomes, 4) Sale value: option determined primarily on price, and 5) Rational value: Monetary difference from objective reference point (p. 7). Four temporal categorizations of these notions of value: 1)ex-ante: pre-purchase, 2) transaction: at the point of trade or experience, 3)ex-post: post-purchase, and 4) disposal: after use/experience .(p.10)	Different between benefits and costs. Time
Khalifa (2004)	1) customer value in exchange (which was a benefits/costs model) 2) customer value build-up (which focused on the benefits side of the value equation and it assumes that the benefits are higher than the costs); and 3) customer value dynamics (which reflected the dynamics of how customers evaluate a supplier's total offering)	Different between benefits and costs
Lindgreen & Wynstra (2005)	(i) the value of goods and services; and (ii) the value of buyer-seller relationships.	Use and relational

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Priem (2007)	<p>"...[1] use value as the subjective valuation of consumption benefits by a consumer. [2] Exchange value is the amount the consumer actually pays, representing revenue to a value system.... "I define [3] value capture as the appropriation and retention by the firm of payments made by consumers in expectation of future value from consumption... [4] Value creation, however, involves innovation that establishes or increases the consumer's valuation of the benefits of consumption (i.e., use value). When value is created, the consumer either (1) will be willing to pay for a novel benefit, (2) will be willing to pay more for something perceived to be better, or (3) will choose to receive a previously available benefit at a lower unit cost, which often results in a greater volume purchased. Thus, from the consumer's viewpoint, value creation involves increasing use value or decreasing exchange value, each of which can increase consumer surplus (V - P)"(p. 220).</p>	Use, actor's perspective
Lepak, Smith, Taylor (2007)	<p>"...two types of value at the organizational level of analysis: use value and exchange value...use value refers to the specific quality of a new job, task, product, or service as perceived by users in relation to their needs, such as the speed or quality of performance on a new task or the aesthetics or performance features of a new product or service...value exchange is define as either the monetary amount realized at a certain point in time, when the exchange of the new task, good, service, or product takes place, or the amount paid by the user to the seller for the use value of the focal task, job, product, or service...value creation depends on the relative amount of value that is subjectively realized by a target user (or buyer) who is the focus of value creation—whether individual, organization, or society—and that this subjective value realization must at least translate into the user's willingness to exchange a monetary amount for the value received." (181-182)</p>	Use,
Beckert 2011	<p>1) Physical value: value based on what object physically does. 2) Symbolic value: value from symbolic meaning of object. (From this one). 2a) Imaginative value: symbolic value that the actor ascribes to object, material representations of transcendental ideals and values 2b) Positional value: symbolic value that third parties ascribe to object, positioning the owner in the social space (111)</p>	Use and meaning

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*Table 2 A timeline of events in the coffee market from 1950 to 2005*

<i>Year</i>	<i>Description</i>	<i>Source</i>
Before WW1	Folgers, Arbuckle's, Hills Brothers, Maxwell House were established	Dicum & Luttinger, p. 123
1938	Development of instant coffee	D&L, p. 131
1959	Juan Valdez becomes the face of Colombian coffee	D&L, p. 5
1962	Peak In US per capita consumption; more than three cups per person per day	D&L, p. 5
1962-1963	The International Coffee Agreement (ICA) and International Coffee Organization (ICO) emerged to administer the ICA as a global cartel that assigned quotas to both producing and consuming countries.	D & L, p. 91
1963	Procter and Gamble bought Folgers	D & L, p. 126
1960's	Few small roasters (e.g., Alfred Peet opened Peet's coffee in 1966)	D&L, p. 144
1971	Seattle coffee-lovers opened a small whole-bean coffee store called Starburcks	D&L, p. 145
1973	First fair trade coffee is imported to Europe from Guatemala	D&L, p. 5
1970s - early 1980s	Starbucks and the rest of specialty industry slowly were building a loyal customer base and spreading awareness of fine Arabica	D&L, p.145
1982	Specialty Coffee Association of America (SCAA) was created	Davison & Ponte, p. 151
1982	Specialty coffee pioneer Joel Schapira introduced the one-way valve to US from Italian Luigi's Goglio invention in 1970.	Pendergrast, 1999. 339.
1982	Baldwin in Starbucks hired Howard Schultz, a plastics salesman	Pendergrast, 1999. 367
1984	Starbucks bought Peet's, but they reminded as two different companies	D&L, p. 145
1985	Nestle acquired Hills Brothers and MJB, General Foods (Maxwell House) was bought by Philip Morris	D & L, p. 126, 127

1987	The original owners of Starbucks sold their interests to Howard Schultz, but kept Peet's.	
1988	Beginning of fair trade coffee in Europe	Pendergrast, 1999, p. 355
1989	Collapse of ICA; world prices plummet to historic lows	D&L, p. 95
1994	Coffee prices broke out of the slump engendered by the effective end of the ICO	D&L, p. 148
Mid 1990s	Organic coffee becomes the fastest growing segment of the specialty coffee industry	D&L, p. 5
1990s	Environmentalists and birders created a market for "bird-friendly coffee" grown in shaded plantations that provide important habitat for migratory birds and other rain forest animals.	Pendergrast, 1999. 393
1997	U.S. retail sales of \$5.22 Billion for the specialty industry	D & L, p. 103
1998	Retail specialty coffee beverage sales in the US, at some 15,000 cafes, kiosks and carts, had passed \$3 billion sales, with another \$2 billion of roasted beans sold	D&L, p. 149
1999	<b>First coffee competition and e-auction: Cup of Excellence in Brazil</b>	
Late 1990s	Consolidation of the specialty coffee industry	D&L, p. 149
1998	Starbucks approaches 2,000 US stores, with as many planned in each of Asia and Europe	D&L, p. 5
1998	P&G's Folgers began offering organic coffee	D&L, p. 181
1998	Peet's coffee and Tea made its first organic coffee	D&L, p. 182
1999	Country level competitions (COE) started in Brazil	D&P, p. 157
2004	The Q Auction by the Coffee quality institute (CQI)	D&P, p. 157

*Table 3 Different categories of coffee*

Type	Characteristics
<b>Traditional: homogeneous</b>	<p><b>Generic</b></p> <p><b>Brand:</b> Belongs to a particular firm.</p>
<b>Differentiated: coffees through quality ratings, origins, varieties, and others</b>	<p><b>Single origin (specialty):</b> Coffee grows in a single known geographical origin (i.e., single farm, collection of beans from a single country).</p> <p><b>Certified:</b> Those that include the three pillars of sustainability (economic, environmental and social) and are certified by independent third parties.</p> <p><b>Organic:</b> Coffees guaranteed to have been produced without the use of pesticides or herbicides and under the standards that ensure the health of soils, ecosystems, and people.</p> <p><b>Fair trade:</b> Coffees guaranteed to provide a minimum price to producers when sold and are produced exclusively by organized smallholder farmers.</p> <p><b>Others:</b> Utz, Rainforest, Bird-friendly.</p>

**Source:** (Giovannucci, Byers, & Liu, 2008; Pierrot, Giovannucci, & Kasterine, 2010)

*Table 4 Certifications and rating systems in the coffee industry*

Name	Actors or organizations	Characteristics	Geographic/Farm size	
Organic	International Federation of Organic Agriculture Movements (IFOAM) and affiliated associations	Accredited certification agencies monitor organic standards on production, processing and handling; formally, IFOAM basic standards make reference to issues of social justice, but do not set requirements	Global, but most organic coffee comes from Latin America, especially Mexico; all farms	
Fair trade	Fair Trade Labeling Organizations International (FLO) and associated Fair Trade Guarantee Organizations	Minimum guaranteed price paid to registered small farmers' organizations that match standards on socio- economic development; non-profit organizations set/monitor standards and mediate between registered producers and fair trade importers	Global, but a sizeable amount of Fair Trade coffee is bought also in Africa; only smallholders	
Certifications	Bird-friendly coffee	Smithsonian Migratory Bird Center (SMBC)	Minimum standards on vegetation cover and species diversity (in addition to organic practices) needed to obtain use of label; also covers soil management	Standard applied only to Latin American coffees so far; mainly estates
	Rainforest Alliance-certified	Rainforest Alliance	Certifies farms on the basis of sustainability standards; covers environmental protection, shade, basic labor and living conditions, and community relations	Latin American countries only; mostly estates but also some cooperatives
	Utz Kapeh	Utz Kapeh Foundation	Code of conduct for growing sustainable coffee formulated on the basis of the 'good agricultural practices' of the European Retailer Group (EUREP); includes standards on environmental protection and management, and labor and living conditions	Mainly in Latin American countries, but growing also in Asia (India, Indonesia, and Vietnam) and in Africa (Uganda and Zambia); mostly estates, but also some cooperatives

The Q Coffee system	Nonprofit organization (The coffee quality institute, it is an initiative that was incubated by SCAA in 1996	<b>Q Coffee System</b> reinforces and upholds the standards of specialty coffee as defined by the SCAA, which has been setting quality standards within the coffee trade for 26 years. <b>Coffee Corps</b> is a unique private-public partnership that matches experts in the industry with farmers and associations at origin seeking technical assistance. <b>Women in Coffee</b> Launched in 2005, the Women in Coffee Leadership Program was originally developed as a yearlong initiative to connect women from different sectors of the coffee industry	Farmers: mainly in Latin American countries	
Rating systems	Cup of excellence (COE)	Initiative originated by International Coffee Organization, the International Trade Centre and the UN Common Fund for Commodities	COE is the most esteemed award given out for top coffees. These awards come from a strict competition that selects the very best coffee produced in that country for that particular year. These winning coffees are chosen by a select group of national and international cuppers and are cupped at least five different times during the competition process. Only coffees that continuously score high enough are allowed to move forward in the competition. The final winners are awarded the prestigious Cup of Excellence® and sold to the highest bidder during an internet auction.	Farmers: mainly in Latin American countries, but growing also in Africa  Buyers: US, Asia, Australia

Source: adapted from Giovannucci and Ponte (2005)

*Table 5 Information available from coffee auctions at January 2013*

<i>Cup of Excellence</i>	<i>Number of auctions</i>	<i>Years available</i>	<i>Missing years</i>	
Bolivia	5	2004 to 2009	1	2006
Brazil	12	1999 to 2012	1	2007
Colombia	10	2005 to 2012	0	
Costa Rica	5	2007 to 2012	1	2010
El Salvador	10	2003 to 2012	0	
Guatemala	9	2001 to 2012	3	2003, 2004, 2005
Honduras	9	2004 to 2012	0	
Nicaragua	11	2002 to 2012	0	
Rwanda	4	2008 to 2012	1	2009
Mexico	1	2012	0	
Burundi	1	2012	0	

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*Information available*

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Auctions results	Winning farms (farmers), coffee score, lot size, higher bid, total value, winning buyers
Buyers	Company, country, whether buyers buy alone or in groups
International judges per auction	Company, country
Farm characteristics	Farm, farmer, rank, city, region, country, farm size, coffee growing area, altitude, certifications
Coffee characteristics	Variety, processing system, lot size, international jury score, top jury descriptions of the coffee (adjectives and comparatives)

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**FIGURES**

*Figure 1. Theoretical model: the effects of platform organizations' dynamics on exchange value*

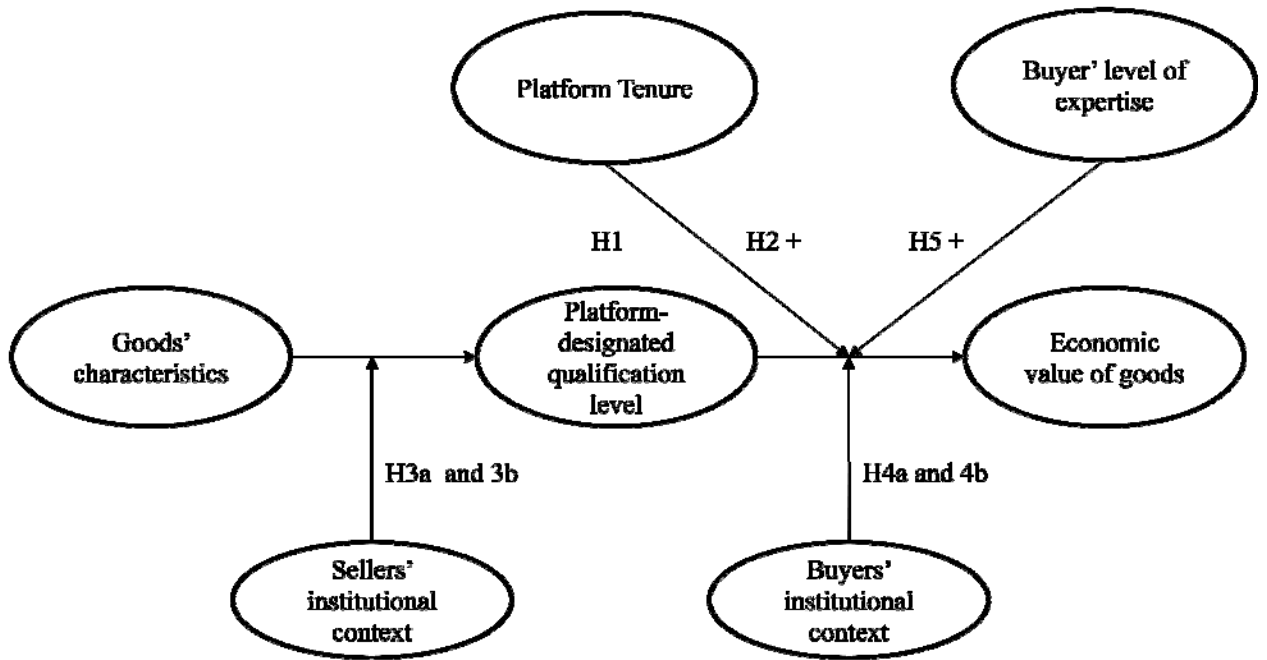
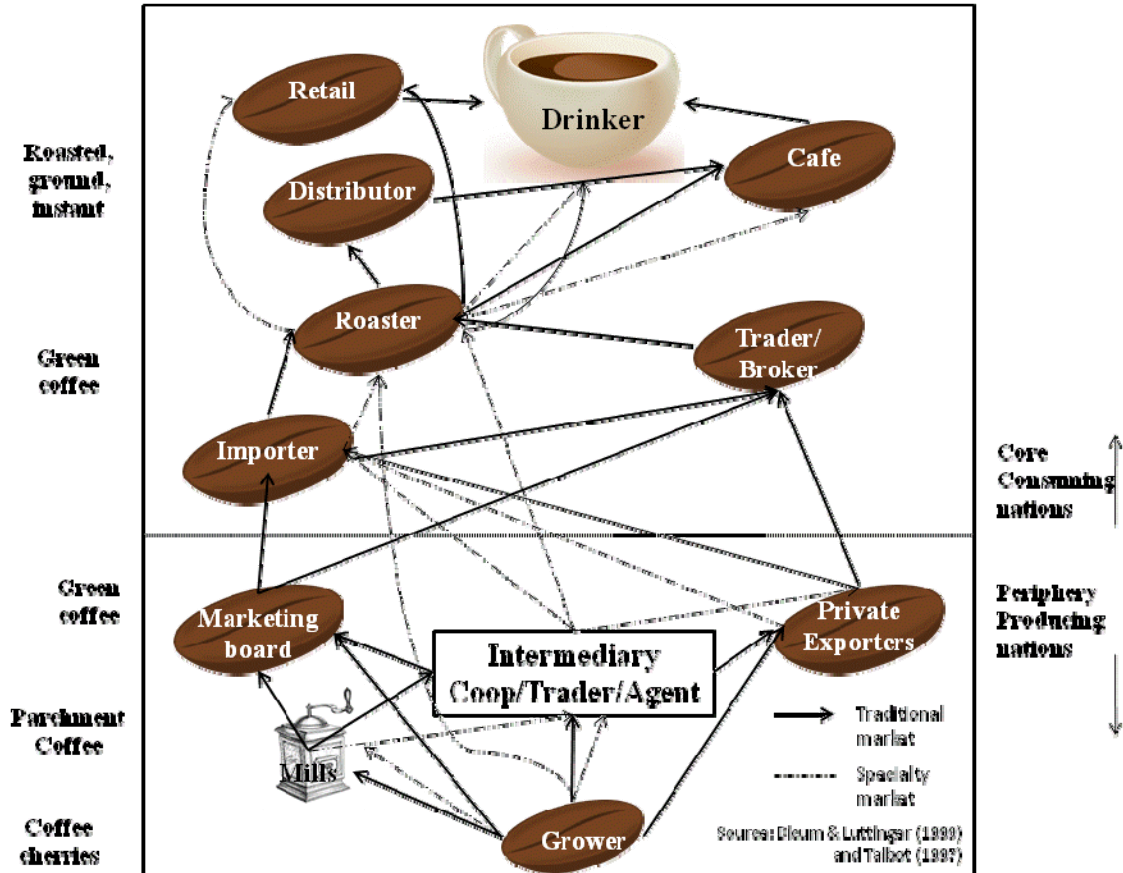


Figure 2. Value chain, coffee markets



Source: Dicum & Luttinger (2006) and Talbot (1997)

Actor	Role	Example
<b>Grower</b>	Farmer that grows the coffee bean	For both markets, traditional and specialty
<b>Mills</b>	First step in the production of green coffee	For both markets, traditional and specialty
<b>Intermediary: cooperative, trader or</b>	Cooperative when a group of farmers are organized under a single organization Trader or agents: buys the coffee from	For both markets, traditional and specialty



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<b>agent</b>	individual farmers	
<b>Marketing board</b>	Created by producers to try to market their product and increase consumption	Federación Nacional de Cafeteros (Colombia)
<b>Private exporters</b>	Based on the country of export.	For both markets, traditional and specialty
<b>Importer</b>	Based on the country of import. It assumes the risk because it buys the product	For both markets, traditional and specialty
<b>Trader/Broker</b>	Trader: Buys, sells or barter the coffee for himself	Broker specialty coffee: Cup of Excellence (auctions system)
	Broker: Brings together a buyer and a seller at a price that is agreeable to both	Broker traditional market: New York Coffee Exchange
<b>Roaster</b>	Roasts the green coffee	Traditional market: Folgers
		Specialty market: Sweet Marias, Intelligenzia, Peet's Coffee
<b>Distributor</b>	Wholesale	Traditional market: Folgers
		Specialty market: Sweet Marias, Intelligenzia, Peet's Coffee
<b>Retail</b>	Supermarket, internet	Specialty market: Peet's Coffee
<b>Cafe</b>	Preparation and elaboration of drinks based on coffee	Specialty market: Starbucks, Peet's Coffee
<b>Drinker</b>	Final consumer	

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Figure 3. Variables included in the model

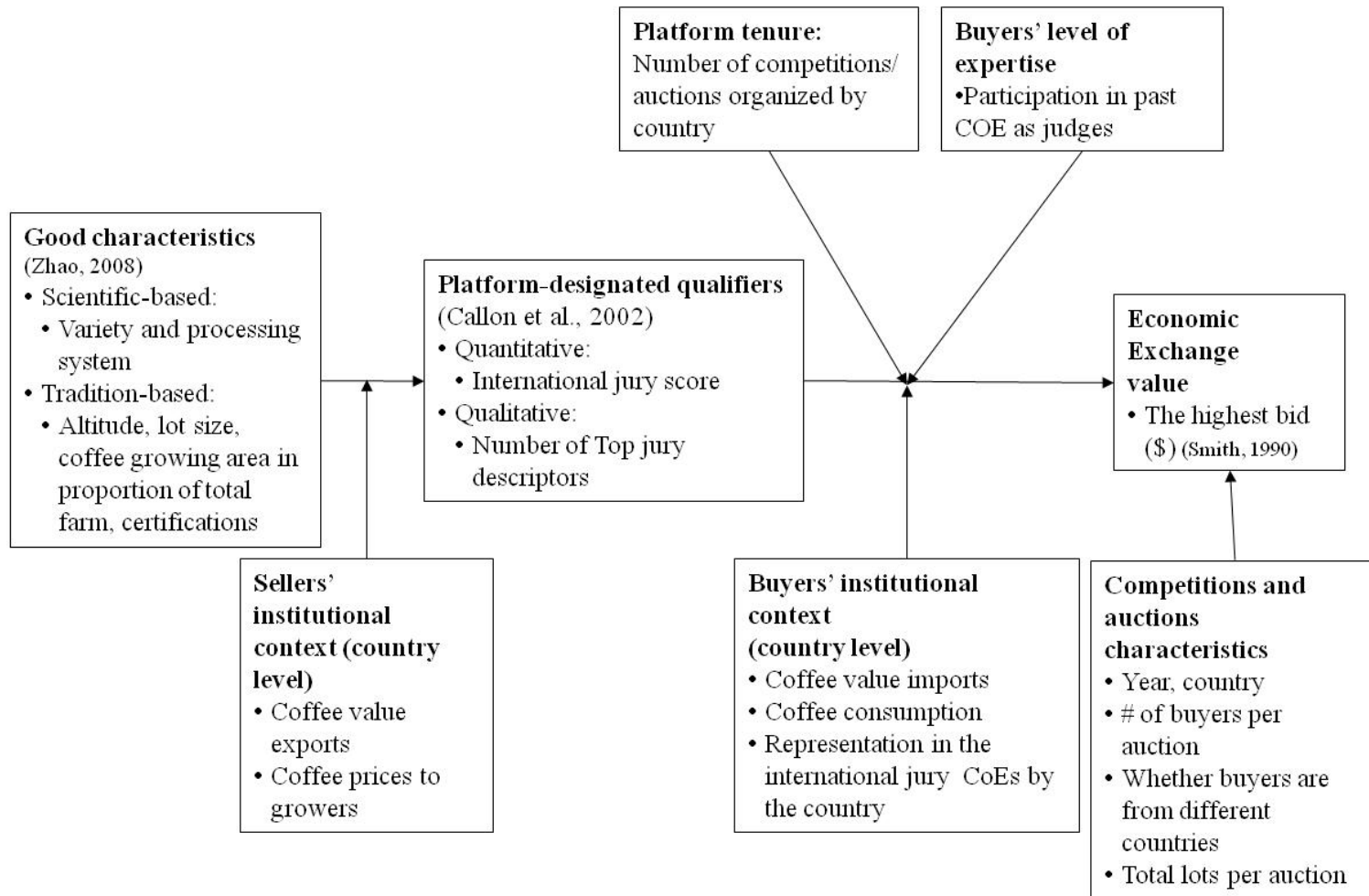


Figure 4. *Ontological assumptions when studying value*

		<b>Sources of value</b>	
		<b>Comparative</b>	<b>Intrinsic</b>
<b>Valuation processes</b>	<b>Relational</b>	<ul style="list-style-type: none"> <li>• Sociological construction of value</li> </ul>	<ul style="list-style-type: none"> <li>• Conventional Marginal / Expected Utility</li> </ul>
	<b>Individual</b>	<ul style="list-style-type: none"> <li>• Prospective theory</li> </ul>	<ul style="list-style-type: none"> <li>• Labor theory of value by Smith, Ricardo, Marx</li> </ul>

*Table 6 Descriptive statistics*

Variable	<i>N</i>	Mean	s.d.	Minimum	Maximum	
Highest Bid (USD pound)	2055	6.04	4.60	1	80.2	
Total Lots	2057	28.64	6.34	10	43	
Score	1910	86.86	2.37	80.25	95.85	
<i>Transaction</i>	Proportion Coffee Growing Area	1417	0.64	0.32	0.00	1
	Altitude (masl)	1692	1495.00	235.87	600	2210
	Descriptors	1908	12.92	6.34	1	47
	Total Variety	2057	1.20	0.61	1	4
Mean accum as judges	2055	5.27	7.84	0	41	
Number Buyers	2055	1.97	1.92	1	16	
<i>Selling Country</i>	Exportable Production (Bags000)	2047	6327.00	8600.00	65	34878
	Prices Growers(US cents per pounds)	1799	88.71	48.37	21.84	239.68
<i>Buying country</i>	Mean Buying Imports (Bags000)	2055	8499.00	7275.00	0	26093
	Mean Buying Consumption (Bags000)	1982	8123.00	6510.00	115	22044
	Mean Accum Judges Freq(Country)	2055	121.31	118.28	0	499
	Mean Accum Judges %(Country)	2055	0.17	0.12	0	0.5

Table 7 Correlations

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Highest Bid USD per pound															
2 Total Lots	-0.17***														
3 Bags	-0.01	-0.09***													
4 Score	0.57***	-0.09***	-0.02												
5 Proportion Coffee Growing Area	-0.05†	-0.03	0.08**	-0.07**											
6 Altitude (masl)	0.26***	-0.13***	-0.02	0.12***	0.07										
7 Descriptors	0.47***	-0.21***	0.14***	0.53***	-0.03	0.21***									
8 Total Variety	0.09***	0.03	0.18***	-0.03	-0.07*	0.11***	0.05*								
9 Exportable Production (bags000)	-0.07**	0.07**	0.16***	0.01	-0.32***	-0.18***	-0.06**	-0.18*							
10 Prices to growers (US cents per pound)	0.34***	-0.29***	0.32***	0.09***	0.03	0.33***	0.33***	0.2***	0.01						
11 Number Buyers	0.26***	-0.04†	0	0.24***	-0.04†	0.05*	0.15***	0.04†	-0.01	0.12***					
12 Mean Accum as judges	0.19***	-0.04†	0.1***	0.07**	0.09***	0.1***	0.17***	0.06**	-0.09***	0.31***	-0.07**				
13 MeanImports 60 Kg 000 bags	0.01	0.03	-0.04†	0.04†	-0.01	-0.02	-0.03	-0.02	-0.04†	-0.1***	0.14***	-0.13***			
14 Mean Consumption (000bags)	0.02	0.04†	-0.04†	0.06**	0	-0.02	-0.03	-0.01	-0.05*	-0.11***	0.14***	-0.14***	0.95***		
15 Mean Accum Judges (Country)	0.25***	-0.03	0.15***	0.05*	0.1***	0.11***	0.18***	0.14***	-0.16***	0.45***	0.07**	0.27***	0.49***	0.51***	
16 Mean Accum Judges Percent (Country)	0.05*	0.01	-0.02	0.05*	0.02	0	0	0.03	-0.07***	-0.06*	0.03	0.05*	0.85***	0.87***	0.66***

†  $p < 0.10$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ; two-tailed tests.

Table 8 Results of mixed models for mediation effect

Model	Controls	2	3	4	5	6
<i>Dependent Variable</i>	High Bid	High Bid	Score	Descriptors	High Bid	High Bid
<i>Mediators</i>						
Score					0.47***	0.51***
Descriptors					0.06†	0.08**
<i>Independent variables</i>						
Intercept	-0.025	0.002	4.49***	-0.87	-0.38	0.18
Altitude		0.24***	0.01***	0.14***	0.16***	
Conventional		0.004	0.01*	-0.07	-0.06	
Natural		0.025	0.02	-0.18	-0.27	
Other		0.039	-0.003	-0.39	-0.05	
Sun (Ref)		0	0	0	0	
Caturra (Ref=1)		0.37***	0.001*	0.32**	0.22*	
Bourbon		0.22†	0.003	0.01	0.18†	
Catuai		0.26*	0.002	0.09	0.21*	
Colombia		0.16	-0.0003	0.04	0.09	
Typica		0.16	-0.01	0.36**	0.09	
Pacamara		-0.23	-0.002*	-0.03	-0.08	
Pacas		-0.09	-0.002	-0.16	-0.02	
Total variety		0.02	-0.001	0.02	0.02	
Bags		-0.11*	-0.002	-0.02	-0.08*	
Proportion coffee		-0.08**	-0.002*	-0.05	-0.05†	
<i>region</i>						
ISO		-0.27	0.0001	0.57	-0.08	
No Certification		-0.29	-0.01	0.46*	-0.05	
Organic		-0.10	-0.01	0.58*	0.19	
Organic RainForest		-0.22	-0.001	0.08	-0.14	
RainForest (Ref)						
<i>Control</i>						
Year categorical			Vary			
# Buyers	0.15***	0.17***			0.08**	0.06**
More than one buying	-0.26***	-0.19*			-0.05	-0.12*
<i>country (Ref= 1)</i>						
Total Lots	-0.12***	-0.14***				
Bolivia	0.10	-0.2015	-0.01	0.35*	-0.03†	0.01
Brazil	0.03	-0.03615	-0.02	0.17	0.38	-0.11
Colombia	0.17	-0.00421	-0.01†	0.39**	0.14†	0.04
Costa Rica	-0.16	-0.38*	-0.01†	-0.38*	-0.2	-0.15
El Salvador	-0.15	-0.39**	-0.01***	-0.36**	-0.15	-0.21*
Guatemala	0.37***	0.34*	-0.01*	-0.06	0.6***	0.44***
Honduras	-0.072	-0.29*	-0.01**	-0.08	-0.15	-0.21*
Nicaragua (Ref)	-0.12					-0.2*
Rwanda (Ref)						
<i>Random effects</i>						
Year	0.26*	0.13*			0.17*	0.09*
Residual	0.76***	0.77***			0.79***	0.54***
<i>Fit statistics</i>						
-2 Res Log Likelihood	5346.9	3410.7	-2934.13	3437.6	2982.3	4299.9
Test diff -2 Res Log Likelihood						
AIC (Smaller is better)	5350.9	3414.7	5940.27	3441.6	2986.3	4304.5

†  $p < 0.10$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

*Table 9 Results of moderation effects platform tenure*

Model	7	8
<i>Dependent Variable</i>	High Bid	High Bid
<i>Mediators</i>		
Score	0.46***	0.48***
Descriptors	0.06*	0.1***
<i>Moderators</i>		
tenure	0.25**	0.26***
Tenure*Score		0.14***
Tenure*Descriptors		0.06*
<i>Independent variables</i>		
Intercept	-0.53	-0.33
Altitude	0.16***	0.15***
Conventional	-0.05	-0.02
Natural	-0.24	-0.14
Other	-0.04	-0.1
Sun (Ref)	0	0
Caturra (Ref=1)	0.23*	0.18†
Bourbon	0.18†	0.16
Catuai	0.22*	0.16†
Colombia	0.1	0.07
Typica	0.11	0.06
Pacamara	-0.07	-0.07
Pacas	0	-0.06
Total variety	0.03	0
Bags	-0.09*	-0.1**
Proportion coffee region	-0.05*	-0.05†
ISO	-0.09	-0.05
No Certification	-0.04	-0.05
Organic	0.18	0.13
Organic RainForest	-0.15	-0.15
RainForest (Ref)	0	0
<i>Control</i>		
# Buyers	0.08**	0.06*
More than one buying		
country (Ref= 1)	-0.05	-0.08
Bolivia	0.18	0.21
Brazil	0.16	0.05
Colombia	0.23†	0.2†
Costa Rica	0.23	0.25
El Salvador	-0.07	-0.03
Guatemala	0.67***	0.68***
Honduras	-0.01	-0.03
Nicaragua (Ref)	0	0
<i>Random effects</i>		
Year	0.05*	0.03*
Residual	0.54***	0.51***
<i>Fit statistics</i>		
-2 Res Log Likelihood	2978.8	2917.2
Test diff -2 Res Log Likelihood		
AIC (Smaller is better)	2982.8	2921.2

†  $p < 0.10$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

*Table 10 Results of moderation effects sellers' institutional contexts*

Model	9	10	11	12
<i>Dependent Variable</i>	Score	Score	Descriptors	Descriptors
<i>Moderators</i>				
Coffee exports	-0.01	0.06	0.4**	3.71*
Coffee exports*NoCertification		0.03*		0.94*
Coffee exports*Organic		0.04**		1.3**
Coffee exports*Conventional		-0.01		-2.08***
Coffee exports*Natural		-0.0019		-3.02***
Coffee exports*Sun		0		0
Coffee exports*Caturra		-0.01		-0.46
Coffee exports*Pacamaras (Ref=1)		-0.08*		-0.54
<i>Independent variables</i>				
Intercept	4.49	4.54	-0.74	1.66
Altitude	0.01***	0.01***	0.13***	0.15***
Conventional	0.01*	-0.0029	-0.07	-1.19
Natural	0.02	0.02	-0.18	-2
Other	-0.0034	0.03	-0.38	-0.15
Sun (Ref)	0	0	0	0
Caturra (Ref=1)	0.01*	0.0006	0.33**	0.05
Bourbon	0.0004	0.0007	0.03	-0.01
Catuai	0.0031	0.003	0.1	0.05
Colombia	0.0018	0.0005	0.04	-0.07
Typica	-0.0007	-0.0013	0.39**	0.3
Pacamara	-0.01*	-0.05**	-0.01	-0.31
Pacas	-0.0026	-0.003	-0.14	-0.46
Total variety	-0.0008	-0.0008	0.02	-0.01
Bags	-0.0021	-0.0024†	-0.01	-0.01
Proportion coffee region	-0.002*	-0.002*	-0.05	-0.06
No Certification	-0.01	-0.002	0.46*	0.68
Organic	-0.01	0.0037	0.59*	1.03
Organic RainForest	-0.001	-0.002	0.08	-0.12
RainForest (Ref)	0	0	0	0
<i>Control</i>				
Year categorical	Vary	Vary	Vary	Vary
# Buyers				
More than one buying country				
(Ref= 0)				
Bolivia	-0.01*	-0.01†	0.41**	0.64
Brazil	-0.01	-0.01	-0.83	0.43
Colombia	0	0	0.01	-0.97
Costa Rica	-0.01*	-0.01*	-0.35*	-0.45
El Salvador	-0.01***	-0.02***	-0.36**	-0.34
Guatemala	-0.01	-0.01†	-0.16	-0.78
Honduras	-0.01**	-0.01*	-0.16	-0.56
Nicaragua (Ref)	0	0	0	0
<i>Random effects</i>				
Year			0.17*	0.18*
Residual			0.78***	0.77***
<i>Fit statistics</i>				
-2 Res Log Likelihood	-2933.31	-2922.997	3234	3383.3
Test diff -2 Res Log Likelihood				
AIC (Smaller is better)	5940.6	5941.99	3436	3387.3

†  $p < 0.10$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ; No ISO as certification.



*Table 11 Results of moderation effects buyers' institutional contexts*

Model	13	14
<i>Dependent Variable</i>	High Bid	High Bid
<i>Mediators</i>		
Score	0.47***	0.47***
Descriptors	0.05†	0.05†
<i>Moderators</i>		
Mean coffee consumption	0.03	0.03
Mean Consumption*Score		0.08***
Mean Consumption*Descriptors		0.01
<i>Independent variables</i>		
Intercept	-0.43	-0.41
Altitude	0.16***	0.16***
Conventional	-0.06	-0.08
Natural	-0.3	-0.35
Other	-0.04	-0.07
Sun (Ref)	0	0
Caturra (Ref=1)	0.23*	0.26**
Bourbon	0.18†	0.18†
Catuai	0.2*	0.21*
Colombia	0.09	0.09
Typica	0.08	0.1
Pacamara	-0.06	-0.05
Pacas	-0.03	0
Total variety	0.02	0.03
Bags	-0.08*	-0.08*
Proportion coffee region	-0.05†	-0.04†
No Certification	0.01	-0.00323
Organic	0.23	0.25
Organic RainForest	-0.08	-0.09
RainForest (Ref)	0	0
<i>Control</i>		
Year categorical		
# Buyers	0.07*	0.08*
More than one buying country		
(Ref= 1)	-0.07	-0.06
Bolivia	-0.03	-0.01
Brazil	0.41	0.46
Colombia	0.14	0.16
Costa Rica	-0.22†	-0.18
El Salvador	-0.16	-0.17
Guatemala	0.58***	0.55***
Honduras	-0.16	-0.15
Nicaragua (Ref)	0	0
<i>Random effects</i>		
Year	0.12*	0.13*
Residual	0.56***	0.55***
<i>Fit statistics</i>		
-2 Res Log Likelihood	2924.6	2920
Test diff -2 Res Log Likelihood		
AIC (Smaller is better)	2928.6	2924

†  $p < 0.10$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

*Table 12 Results of moderation effects Buyers' expertise on the platform*

Model	15	16
<i>Dependent Variable</i>	High Bid	High Bid
<i>Mediators</i>		
Score	0.47***	0.46***
Descriptors	0.06†	0.09**
<i>Moderators</i>		
Mean acc as judges	0.05*	0.05*
Mean acc as judges*Score		0.23***
Mean acc as judges*Descriptors		0.06†
<i>Independent variables</i>		
Intercept	-0.41	-0.24
Altitude	0.15***	0.15***
Conventional	-0.06	-0.02
Natural	-0.27	-0.14
Other	-0.04	0.05
Sun (Ref)	0	0
Caturra (Ref=1)	0.22*	0.17†
Bourbon	0.2*	0.19†
Catuai	0.21*	0.18*
Colombia	0.09	0.05
Typica	0.09	0.05
Pacamara	-0.07	-0.08
Pacas	-0.01	-0.06
Total variety	0.02	0.01
Bags	-0.08*	-0.09*
Proportion coffee region	-0.05†	-0.04
ISO	-0.12	-0.04
No Certification	-0.06	-0.12
Organic	0.19	0.07
Organic RainForest	-0.12	-0.15
RainForest (Ref)	0	0
<i>Control</i>		
# Buyers	0.08	0.09
More than one buying country (Ref= 1)	-0.06	-0.05
Bolivia	-0.03	-0.01
Brazil	0.39	0.31
Colombia	0.14	0.1
Costa Rica	-0.19	-0.16
El Salvador	-0.13	-0.08
Guatemala	0.62	0.63
Honduras	-0.15	-0.13
Nicaragua	0	0
<i>Random effects</i>		
Year	0.1*	0.09*
Residual	.54***	0.50***
<i>Fit statistics</i>		
-2 Res Log Likelihood	2983.3	2891.2
Test diff -2 Res Log Likelihood		
AIC (Smaller is better)	2987.9	2895.2

†  $p < 0.10$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

*Table 13 Summary of hypotheses and statistical evidence*

<i>Hypothesis</i>	<i>Comments</i>
H1 The relationship between goods' characteristics and exchange value of the product traded in the platform is mediated by platform-designated qualification levels.	Partial mediation supported
H2 Platform tenure will moderate the effect of platform-designated qualification levels on exchange value of the goods traded in such a platform	Supported
H3a Institutional contexts with higher level of product importance will increase the effects of tradition-based characteristics on platform-qualification levels and decrease the effects of scientific-based characteristics on platform-qualification levels	Partially supported
H3b Institutional profiles with lower level of product importance will increase the effects of scientific-based characteristics on platform-qualification levels and decrease the effects of tradition-based characteristics	Partially supported
H4a Institutional contexts with higher level of product importance will increase the effects of qualitative qualifiers on economic exchange value and decrease the effects of quantitative qualifiers	Sign not supported
H4b Institutional profiles with lower level of product importance will increase the effects of quantitative qualifiers on economic exchange value and decrease the effects of qualitative qualifiers	Sign not supported
H5 Buyers' expertise about the platform positively moderates the relationship between platform-designated qualification levels and economic value.	Supported

## APPENDIX

### Appendix A. Cupping rules and protocols Cup of Excellence<sup>1</sup>®

#### 1. Cupping Rules:

Selection Process:

The Cup of Excellence® competition consists of 3 STAGES:

1. Pre-selection or screening
2. National jury which is made up of host country cuppers
3. International jury which is made up of international coffee professionals

The Pre-selection process reduces the number of entries to approximately 150 through visual inspection and cupping analysis.

*Cuppings are done in sessions of ten coffees or less on a table.*

The National Jury Stage consists of 2 cupping ROUNDS lasting about 5 days.

The first round lasts about 3 days, during which the prescreened coffees are cupped and scored. During the first round all of the prescreened coffees are cupped and scored, the second round consists of only the top 80 or so of which are then reduced down to the top 60 or less coffees scoring over 84 points.

These top coffees then move forward and enter the international stage of the competition.

*All competition coffees must score at least 84 points to move to the next round.*

The international jury consists of 5 days of cupping.

On the first day there is an extensive calibration. On day 2-3 the international jury cups the coffees which have been approved and passed by the national jury leaving the afternoon free for farm tours or coffee presentations.

On the 4th day the second round begins and is the most intense cupping day. The jury will cup about 45 coffees which have passed the first round. Coffees scoring an 84 or above during this round are awarded the prestigious Cup of Excellence.

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<sup>1</sup> Taken from COE Webpage, [www.cupofexcellence.org](http://www.cupofexcellence.org) retrieved December 2011

The top ten scoring coffees are cupped one more time to rank them and discover the first place winner of the competition.

*The highest juror score and the lowest score for each coffee are dropped out before tabulating the average score.*

*Any coffee that is found to have a major defect by jurors during any round, at any stage, and no matter what its past scores, will be disqualified.*

“The Cup of Excellence® competition cycle was conceived with the purpose of finding masterpiece lots of coffee from hundreds of entries. This requires a dedication to key details and an unrelenting repetition in the cupping search process that has become the unique signature of the Cup of Excellence experience. Three overlapping juries inspect and cup samples in an ever narrowing field of better and better coffee until the last day- with a mere handful of exemplary coffees- is experienced to the elation of every judge who participates. It is not a matter of reaching casual consensus; it is a matter of reaching unanimity of vision on that last morning thanks to the very hard work and ironclad integrity of the process. We all become students again and share in the rejuvenation of the true discovery of quality”. *George H. Howell co-creator of The Cup of Excellence and its first head judge.*

## **2. Cupping Form (By George H. Howell)**

The Cup of Excellence® cupping form rates the cup quality of submitted coffees using multiple categories: absence of defects, cleanness of cup, sweetness, quality of acidity and of mouthfeel, flavor, aftertaste and balance.

Cup quality criteria:

**Clean cup:** this is the basic starting point for coffee quality. Clean cup is complete freedom from taints or faults. It is the transparency necessary for a coffee’s terroir to shine through.

**Sweetness:** the sensation of sweetness correlates directly with how uniformly ripe a coffee was when harvested. Sweetness is not entirely dependent on how much sugar is in the roasted coffee, but also on other components which combine to create the impression of sweetness.

**Acidity:** this is what brightens a coffee. It gives life. In wine it is often referred to as nerve (nervosité in French), backbone or spine.

Quantity of acidity is not necessarily related to quality. A judge must score the quality of the acidity in a particular coffee. As with wine, not all coffees should be notably acidic. It is rather the expression of that acidity, whether powerful or very mild, that is important:

is the acidity harsh or overly tart? Is the acidity refined or tangy or does it have a pleasant snap? These are the kinds of questions the judge should ask when scoring a particular coffee's acidity.

**Mouthfeel:** the tactile sensation imparted by a coffee. Mouthfeel can include the perception of viscosity, density, weight, texture and astringency.

As with acidity, the degree of mouthfeel presence is not the same thing as quality. The judge must score the quality of the mouthfeel.

**Flavor:** this is a combination of taste (sweet, sour, bitter, salty and pungent) and aroma - or nose. This is where a fine coffee can truly stand out as an elegant, and even forceful, expression of place – terroir. The judge must determine whether a coffee's flavor profile is merely generic or a genuine expression of terroir brought out by the care of the harvester and the skill of the processor.

**Aftertaste:** the lingering flavor after the coffee has been swallowed can either reinforce the pleasure derived from a coffee's other attributes or it can weaken and even sabotage it. Does the coffee sweetly disappear or is there a harshness that emerges?

**Balance:** is the coffee harmonious? Is something excessive? Is the coffee missing something?

**Overall:** does the coffee have an exciting complexity or is it a simple but very pleasing coffee? Does the cupper simply not like it? This category is the cupper's personal call.

**Final points:** One way the coffee experience is truly different from wine is the perception of how it changes from hot to cold over a considerable amount of time. Most judge a coffee by their first impression. The first step to leaving the commodity world, however, is to discover delight in the elegant and slowly evolving transformations of the rare best coffees. Judges take care to explore each coffee presented at the Cup of Excellence® competitions in this way.

Cup of Excellence® scoring categories:

#### **DEFECTS**

Phenolic, rio, riado -> automatic disqualification

Ferment

Oniony, sweaty

#### **CLEAN CUP**

+ purity free from measurable faults clarity

- dirty earthy moldy off-fruity

**SWEETNESS** (prevalence of...)

- + ripeness sweet
- green undeveloped closed tart

**ACIDITY**

- + lively refined firm soft having spine crisp structure racy
- sharp hard thin dull acetic sour flabby biting

**MOUTHFEEL** (texture, viscosity, sediment, weight, astringency)

- + buttery creamy round smooth cradling rich velvety tightly knit
- astringent rough watery thin light gritty

**FLAVOR** (nose + taste)

- + character intensity distinctiveness pleasure simple-complex depth (possible notations: nutty, chocolate, berry, fruit, caramel, floral, beefy, spicy, honey, smokey...)
- insipid potato peas grassy woody bitter-salty-sour gamey baggy vegetal

**AFTERTASTE**

- + sweet cleanly disappearing pleasantly lingering
- bitter harsh astringent cloying dirty unpleasant metallic

**BALANCE**

- + harmony equilibrium stable-consistent (from hot to cold) structure tuning acidity-body
- hollow excessive... aggressive inconsistent change in character

**OVERALL**

- + complexity dimension uniformity richness (transformation from hot to cold...)
- simplistic boring do not like!