

**ORGANIZATIONAL CULTURE AND FIRM PERFORMANCE:  
EVIDENCE FROM THE RESTAURANT INDUSTRY**

by  
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*Dedicated to my lord, my shepherd, and my savior.*

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## ABSTRACT

This study investigated the effect of organizational culture on firm performance in the restaurant industry. Despite the importance of organizational culture in the organizational functioning, empirical evidence for the organizational culture-performance relationship remains fragmented. The inconsistency in the literature was aroused from a lack of theoretical development, a negligence of industry-specific factors, a small sampling issue, and a lack of longitudinal examination. Therefore, this study proposed to use text analysis in measuring organizational culture and examined the organizational culture-restaurant performance with a consideration of moderating effect of service orientation, franchising, and economic condition. This study found that different organizational culture influences restaurant performance differently. Specifically, the result of this study reveals that: clan culture immediately increases restaurant productivity; adhocracy culture decreases restaurant growth; and hierarchy immediately decreases restaurant productivity. In terms of moderating role of service orientation, this study found that: that tangible service orientation positively moderates both hierarchy culture-profitability and hierarchy culture-productivity relationships. This result implies that tangible service orientation works better with the hierarchy culture in improving restaurant performance than intangible service orientation. As for the moderating effect of franchising on the organizational culture-performance relationship, this study found that franchising positively moderates the clan culture-profitability relationship and the clan culture-productivity relationship. This result implies that operational and economic benefit of franchising could be passed on to create synergetic effect with the clan culture and maximize the positive clan-productivity relationship while offset the clan-profitability relationship. Last, this study found that recession positively moderates the hierarchy culture-profitability relationship and the hierarchy culture-productivity relationship. Theoretically, this study contributes to the literature by: providing logical link between the organizational culture and firm performance; providing empirical evidence that reveals the performance implication of the organizational culture; and by using alternative organizational culture measurements based on text analysis of firms' 10K filings. Practically, this study offers insightful implications for industry professionals in understanding the effect of organizational culture on restaurant performance.

# CHAPTER 1. INTRODUCTION

## 1.1 Research background

Organizational culture is commonly defined as a set of shared assumptions and values in the organization (Cameron & Quinn, 2011; Kotter & Heskett, 1992) that determines organizational norms and defines individual behaviors in the organization (Benabou & Tirole, 2002; Fiordelisi & Ricci, 2014; Tabellini, 2008). It appeals to employee commitment and effort, thereby overseeing employee behavior (Pettigrew, 1979). In this regard, organizational culture is considered important in organizational effectiveness (Deal & Kennedy, 1982; Schein, 1992; Wilkins & Ouchi, 1983). Specifically, it is more critical to an organization comprised of a collection of diversified independent entities (Gajewski, 2013), as effective organizational culture unifies all sub-entities (Kenny, 2012). In this respect, organizational culture is important in improving organizational performance and productivity (Denison & Mishra, 1995; Øgaard, Larsen, & Marnburg, 2005; Sackmann, 2010).

For these reasons, organizational culture has received extensive interest in both academia and industry (Tepeeci, 2004). There is a stream of literature highlighting culture's content and its relationship with organizational effectiveness (Denison & Mishra, 1995; Hofstede et al., 1990), concluding that organizational culture is critical in generating organizational performance (Denison & Mishra, 1995; Heskett & Kotter, 1992; Wilkins & Ouchi, 1983). However, empirical evidence for revealing an organizational culture-performance relationship remains fragmented and inconclusive (Hartnell et al., 2011). Hartnell et al. (2011) noted that there is a lack of theoretical development and empirical support for the notion that organizational culture is related to organizational effectiveness (Ostroff et al., 2003; Wilderom, Glunk, & Maslowski, 2000).

O'Reilly et al. (2014) further noted that inconsistency may be due in part to the variance across industries. Literature suggests that organizations within a specific sector share unique cultural values (Chatman & Jehn, 1994; Gordon, 1991; Phillips, 1994; Spender, 1989) and that the organizational culture-performance relationship is separate from universal generalization (Denison, 1996; Gordon, 1985; Gordon & Di Tomaso, 1992; Hansen & Wernerfelt, 1989, Heskett & Kotter, 1992). Gordon (1991) further argued that organizational culture is subject to adjustments according to environment. This means that the effect of organizational culture on

performance may differ by industry and that certain industries may prioritize specific culture(s) to improve firm performance (Øgaard, Larsen, & Marnburg, 2005; Quinn & Rohrbaugh, 1982). Given this consideration, industry-specific contexts may have a critical bearing on how certain cultures more effectively achieve organizational objectives and the lack of industry-specific understanding of how organizational culture actually plays its role in organizational performance.

In addition, O'Reilly et al. (2014) also recognized that a small sampling of literature may have hampered our understanding of the organizational culture-performance relationship. Previous evidence was primarily anecdotal, descriptive, and conceptual (Deal & Kennedy, 1982; Gordon & Di Tomaso, 1992; Peters & Waterman, 1982) because of the use of in-depth interviews and survey questionnaires. Although these methodological tools are useful for collecting in-depth information from respondents (Schwab, 2005), these methodologies were limited in collecting data over a longer time span (Robson, 2002). Consequently, these studies were confined to small-sampled and cross-sectional studies which in return led to inconsistent findings. This calls for an alternative approach to measuring organizational culture that utilizes large-sampled, longitudinal study approaches.

Furthermore, a lack of longitudinal studies also implies that a time horizon of organizational culture and its effect have been largely neglected in the past. Gordon and Di Tomaso (1992) noted that it is important to examine how long the effect of organizational culture persists. Although a few studies that partially looked at the time horizon over which organizational culture yields performance outcomes, some of them were confined to specific case studies and were thus unable to establish generalizability (Fairfield-Sonn, 1993; O'Regan & Lehmann, 2008) while others provided descriptive analysis (Petty et al., 1995; Sackmann, Eggenhofer-Rehart, & Friesl, 2009; Gordon & Di Tomaso, 1992).

In sum, organizational culture is critical in shaping organizational effectiveness (Deal & Kennedy, 1982; Schein, 1992; Wilkins & Ouchi, 1983). However, there remain certain limitations that must be addressed to genuinely understand the relationship between organizational culture and firm performance: dearth of theoretical linkage between the culture-performance relationship; negligence of industry-specific contexts; small sample issues; and failure to examine the time horizon of the organizational culture effect. This study proposes to fill the gap in the literature by addressing these limitations.

## 1.2 Research rationale

To fill voids in the literature, this study intends to examine the organizational culture-performance relationship within the restaurant industry. It is important to examine the effect of organizational culture on performance in the restaurant industry because it has a distinctive industry-specific context (Woods, 1989) that may substantially affect the organizational culture-performance relationship. First, restaurant operations have a unique service structure that offers both tangible and intangible services (Lee & Yoon 2006; Kim et al. 2008; Rust & Oliver, 1993; Yi & Lee, 2014). For instance, tangible service-focused firms may allocate more resources to produce superior quality menus, while intangible service-focused firms prioritize the process of service delivery mechanism. Based on the notion that a firm's product market strategy is designed to utilize available resources to achieve organizational goals (Day & Wensley, 1988; Dess & Davis, 1984; Hughes & Morgan, 2007), a fit between product market strategy and organizational culture could maximize effective implementation of product market strategy (Day 1999; Scholz 1987). In this regard, the service orientation of restaurant firms plays a critical role in the organizational culture-performance relationship. In this respect, it is important to recognize service orientation and to consider the moderating effect it imposes on the organizational culture-performance relationship in the restaurant industry.

Second, another industry-specific context is that restaurant firms often grant the right to third entities to operate under a protected trademark for the purpose of producing or distributing a product or services (Caves & Murphy, 1976). Restaurant firms engage in franchising to expedite growth (Hsu & Jang, 2009; Seo & Sharma, 2018), overcome limited resources (Dant, 1995; Lafontaine, 1992), and mitigate the principal-agent problems (Lafontaine & Kaufmann, 1994). Furthermore, Koh et al. (2018) noted that franchising stabilizes cash flow volatility by collecting franchise fees or royalties. In light of these economic and operational benefits, franchising may significantly influence restaurant performance. This suggests that the effect of organizational culture on performance could be substantially influenced by franchising in the restaurant industry. In this respect, it is important to consider the moderating effect of franchising to understand the relationship between organizational culture and restaurant performance.

Third, economic condition is another important factor to consider in examining the organizational culture-restaurant performance relationship. It is widely recognized that the restaurant industry is certainly vulnerable to economic fluctuations (Enz, 2009). Since economic

condition determines the level of discretionary income disposable to restaurant spending (Koh et al., 2018), restaurant performance is substantially influenced by the economic environment. This implies that the effect of organizational culture on restaurant performance is confined by the boundaries set up by the economic condition. For instance, any positive effect caused by reinforcing specific organizational cultures could be offset by adverse economic conditions. Considering the importance of economic condition in the restaurant industry, examining the organizational culture-performance relationship without considering the moderating effect of economic condition may seriously impede our understanding of the organizational culture-performance relationship.

Furthermore, it is important to study the effect of organizational culture in the restaurant industry because organizational culture may have a more substantial impact on restaurant operations. Restaurant operation success is largely dependent on employee behavior. Since restaurant offerings involve employees making direct contact with customers (Dawson, Abbott, & Shoemaker, 2011), developing strong relationships between employees and customers is critical in enhancing customer retention, referral, and loyalty (Hennig-Thurau, Gwinner, & Gremler, 2002; Palmatier et al., 2006). Meanwhile, restaurant professions, specifically servers and hall staffs, are widely considered entry-level (Dermody, Young, & Taylor, 2004), low in job security (Bendick, Rodriguez, & Jayaraman, 2010), and poorly paid (Curtis, Upchurch, & Severt, 2009). Consequently, these attributes delimit the potential labor pool and significantly influence a high turnover rate (Dawson, Abbott, & Shoemaker, 2011). In light of this conflict between the importance of employees and the narrower labor pool, organizational culture has more to contribute to the functioning of organizations, as it determines behaviors among members (Benabou & Tirole, 2002; Fiordelisi & Ricci, 2014; Tabellini, 2008). Therefore, the effectiveness of the organizational culture may be more substantial in the restaurant industry .

In addition, the restaurant industry is in a transition that leads to conflicts between past and future organizational cultures. With the success of franchising, production-line operation (Levitt, 1972) combined with division of labor enabled restaurant firms to achieve standardization and efficiency (Øgaard, Larsen, & Marnburg, 2005). Standardized products and services were sought in multiunit operations, and tasks were routinized (Koutroumanis & Alexakis, 2009). This led to a high level of bureaucracy among restaurant firms in the past (Tracey & Hinkin, 1994). However, customers started to expect more than just standardized

service, and sought products and services pertaining to personalized needs (Poon, 1994). Moreover, rapid expansion through franchising and standardization in the past expedited the market saturation (Øgaard, Larsen, & Marnburg, 2005). As a result, the value of standardization became obsolete, while competitiveness depended on local adaptation, innovation, and customization. This implies that restaurant firms must shift their organizational focus to adaptability, and it is critical to understand which organizational cultures are more suited for restaurant survival.

Meanwhile, there have been limited efforts to fully understand the culture-performance relationship to date in the field of hospitality and tourism management. Previous studies mainly focused on case studies (Dwyer et al., 2003; Kemp & Dwyer, 2001), developing hospitality industry-specific measures of culture (e.g., Davidson et al., 2001; Teppeci & Bartlett, 2002), and cross-industry comparison (Gray et al., 2000). Although these works were valuable in fulfilling their initial objectives, they offered limited insight into the relationship between culture and performance in the restaurant industry.

In sum, this research is intended to examine the relationship between organizational culture and firm performance in the restaurant industry. It is important to examine the culture-performance relationship in the restaurant context, because the effect of organizational culture could be more substantial for labor-intensive restaurant businesses; a conflict of cultural values exists between the past and the present; the restaurant industry offers different business contexts that may lead to variability in the cultural effect; and there is a lack of academic effort to study the organizational culture-performance relationship in the field of hospitality management.

### **1.3 Research objectives**

This research explores how organizational culture influences performance in the restaurant industry. First, this study is intended not only to empirically examine but also to provide theoretical discussion of how organizational cultures impose influences on specific performance indicators. Previous studies were too general in explaining the organizational culture-performance relationship and neglected to provide a logical explanation behind the culture-performance relationship. For instance, it is widely recognized that an adhocracy culture

positively influences firm performance in general (Dwyer et al., 2003), but there is still a lack of explanation about how adhocracy culture functions and how it leads to performance, as in growth and profitability. In this respect, this study is expected to provide a deeper understanding of the organizational culture-performance relationship by offering an in-depth discussion on how certain organizational cultures relate to specific outcomes.

Second, this study proposes moderating effects of restaurant-specific contexts such as service orientation, franchising, and economic condition on the culture-performance relationship. As noted, the restaurant industry inherently offers diverse business contexts (i.e., franchising, service orientation) that result in different operational modes, business models, and main products. These differences impose conditions for restaurant firms where there are certain organizational cultures that function well in context-specific environments. This suggests that our understanding of the culture-performance relationship could be seriously hampered without considering how these business contexts affect the relationship.

Third, this study intends to use an alternative organizational culture measurement. Previous organizational culture studies mainly used in-depth interviews or survey questionnaires to measure the organizational culture. They were limited to providing anecdotal, descriptive, and conceptual information with small samples (Deal & Kennedy, 1982; Gordon & Di Tomaso, 1992). To tackle these limitations, this study utilizes content analysis to measure organizational culture using a restaurant firm's 10K reports. Since it systematically analyzes textual data, it is less prone to the subjectivity of the researchers (Neuman, 1994). Therefore, it is free from biases associated with researcher intervention and offers a more objective measure of organizational culture. Moreover, it enables large-sample longitudinal evidence that organizational culture significantly influences performance.

In brief, the main objective of this study is to empirically examine the relationship between organizational culture and restaurant performance. Specifically, this study intends to: 1) provide a theoretical explanation and examine how cultures influence restaurant performance as in growth, profitability, and productivity; 2) examine the time-horizon of cultural effect on restaurant performance; 3) examine the moderating effect of service orientation, franchising, and economic condition on the culture-performance relationship; 4) use content analysis to measure organizational culture; and 5) provide longitudinal evidence that organizational culture significantly influences performance in the restaurant industry.

## CHAPTER 2. LITERATURE REVIEW

### 2.1 Organizational culture

Although initial academic interest in organizational culture dates back to the 1930s (Lewin, Lippitt, & White, 1939), the concept of organizational culture became a major topic of organizational research in the 1980s (Ouchi & Wilkins, 1985) when American companies studied then successful Japanese companies (Ouchi, 1981; Pascale & Athos, 1981; Peters & Waterman, 1982). Academicians then started to view organizational culture as a mechanism that helped enhance organizational performance, and they tried to manage changes within organizations (Trice & Beyer, 1993). Consequently, organizational culture has been extensively studied in relation to organizational dynamics, behavior, effectiveness, and leadership (Hartnell et al., 2011; Hogan & Coote, 2014; Quinn & Rohrbaugh, 1983).

Organizational culture has been defined in many ways by various researchers (Geldenhuis, 2006), but it fails to reach a universally accepted definition (Dale, 2012; Dawson, Abbot, & Shoemaker, 2011). Cameron and Quinn (2011) defined organizational culture as a persistent set of values, beliefs, and assumptions that shape the behaviors of the members within organizations. Similarly, Kotter and Heskett (1992) viewed organizational culture as an interdependent set of shared values and behaviors that are common to organizations and tend to perpetuate within organizations. Schein (2010) defined organizational culture as “a pattern of shared basic assumptions learned as it solved its problems of external adaptation and internal integration, which worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.” Hartnell et al. (2011) suggested that organizational culture is a social phenomenon involving organizational beliefs, values, norms, and behaviors, while Ivancevich, Konopaske, & Matteson (2011) defined organizational culture as an invisible drive that can be displayed by attitudes and behaviors among its members.

Despite diverse viewpoints, it is common among studies that the definition of organizational culture incorporates both shared norms at fundamental levels (Deshpande & Webster, 1989; Jogaratnam, 2017) and common behaviors at visible levels (Kotter, 1995). Schein (1990, 2010) proposed that the existence of organizational culture could be confirmed

through artifacts, espoused values, and assumptions where artifacts are tangible manifestations observed through organizational image, style, technology, ceremonies, architecture, etcetera (Bolman & Deal, 2013; Schein, 2010); espoused values are standards that guide decision making within organizations; and assumptions are deeply underlying beliefs in the organization (Schein, 1990; 2010) that lead to consistent patterns of behaviors among members (Van Maanen & Schein, 1979). This decomposition is aligned with the notion that organizational culture incorporates underlying assumptions and values that are then realized in a form of organizational behaviors (Schein, 1981).

As such, organizational culture could be understood as sustained systematic patterns of norms, values, beliefs, and assumptions that shape consistent individual behaviors in the organization. It provides a reference point in coping with internal and external events (Kuh & Whitt, 1988) and binds its members to the organization to establish teamwork and performance (Yirdaw, 2014). In this respect, organizational culture could be perceived as a strategic asset that increases the adaptability of an organization in relation to its environment (Kotter, 1995; Peters & Waterman, 1982).

## **2.2 Competing Value Framework**

### **2.2.1 Value-driven approach**

Among artifacts (behaviors), values, and assumptions, Schein (1990, 2010) noted that it is difficult to utilize assumptions and artifacts in studying organizational culture. Since underlying assumptions involve the subconscious, they are difficult to directly analyze (Lund, 2003). Artifacts and behaviors are overt, but they are difficult to interpret. For this reason, values constitute primary elements among organizational researchers to conceptualize organizational culture (Chatman, 1989; O'Reilly et al., 1991; Schein, 1985, 1996; Vandenberghe, 1999). Furthermore, a value-driven approach is also widely preferred because shared values are relatively more stable, enduring, and interactive among members (Chatman, 1989). In this respect, it provides general justification for both appropriate behaviors and functions of the system (Enz, 1988). Indeed, cultural values are the most frequently examined cultural aspect in the literature (Øgaard, Larsen, & Marnburg, 2005). Selznick (1957) further noted that shared values bind the organization as one unit and provide a unique identity. Therefore, understanding

an organization’s culture in terms of core values requires identifying ranges of relevant values, as they are fundamental characteristics for any organizations (Tepeci & Bartlett, 2002).

### 2.2.2 Competing value framework

This study was structured around organizational culture as defined by the Competing Values Framework (CVF) first introduced by Quinn and Rohrbaugh (1938). The CVF was initially introduced to systematize organizational effectiveness literature of the 1980s (Cameron, 1981; Quinn & Rohrbaugh, 1983). Quinn and Rohrbaugh (1983) analyzed 30 determinants of organizational effectiveness and defined constructs for effective organization into a three-dimensional model (Grant, 2014). As shown in Figure 1, the first dimension is displayed as a horizontal axis and indicated organization’s focus of operational orientation where: internal focus represents that the firm pursues effectiveness through internal unity with concern for

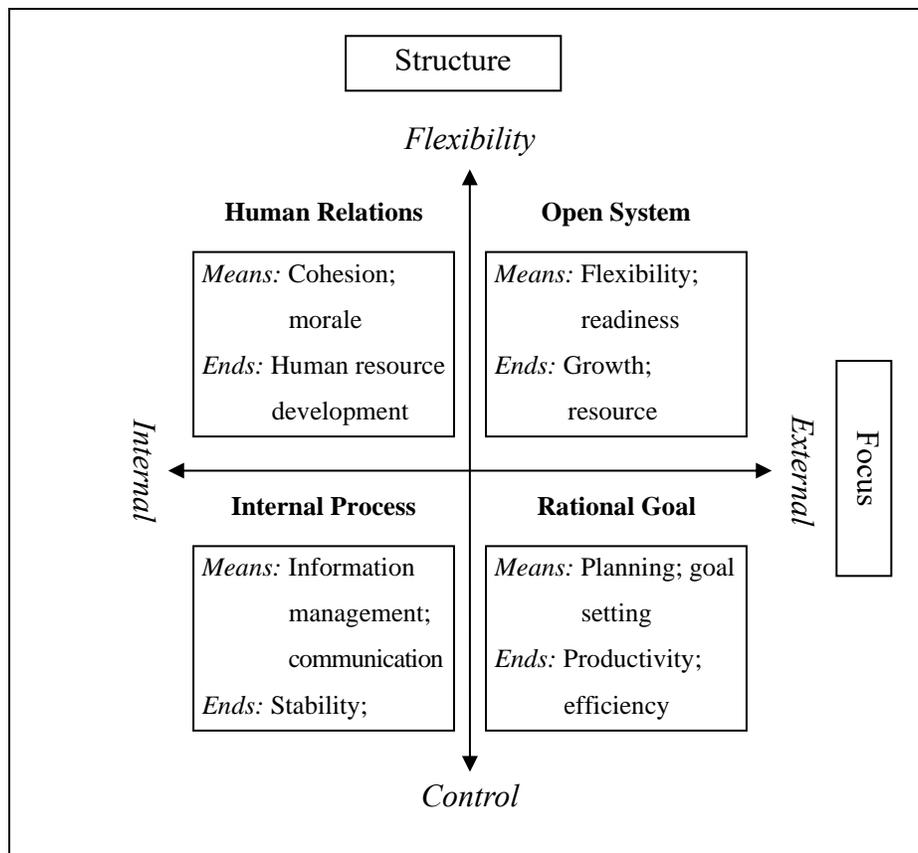


Figure 2. 1 Organizational culture model suggested by Quinn & Rohrbaugh (1983)

employee morale, and external focus shows the firm is focused toward the market and customers with concern for market share and competition (Cameron & Quinn, 2006; 2011). The second dimension is structure, illustrated as a vertical axis of the framework where: control-structured organizations pursue effectiveness through centralized, already-established decision making; and flexible organizations have a decentralized structure that allows for consistent changes and adaptation (Cameron & Quinn, 2006). Finally, the third dimension is located inside the quadrant formulated by focus and structure dimensions, and differentiated indicators of a concern for means from indicators of a concern for ends.

The focus and structure dimensions were combined to form four quadrants, each representing a distinct set of organizational effectiveness. The first quadrant is the human relations model, which has a highly flexible structure with internal focus. It pursues human resource development through enhancing cohesion and morale. The second quadrant has a high flexible structure and is externally focused. This is the open system model that values growth and resource acquisition through flexibility and readiness. The internal process model is the third quadrant, which has a control structure and highly internally focused. This highlights stability and control through information management and communication. The fourth quadrant is highly external focused and has a control structure that is the rational goal model. It stresses productivity and efficiency through planning and goal setting.

Quinn and his colleagues (Kimberly & Quinn, 1984; Quinn, 1988) later adapted this framework to explore organizational culture, and Cameron and Quinn (1999) simplified the framework by deleting the third axis of means/ends. The axes of focus and structure remained and formed four quadrants defining specific dominant values of organizational culture: clan, adhocracy, market, and hierarchy cultures. Figure 2 illustrates the CVF.

As the original purpose of the CVF was to assess organizational effectiveness, Cameron (2008) noted that these dimensions represent what employees value about an organization's performance. Furthermore, these dimensions appropriately describe how members process information, what their fundamental needs are, and what core values they used to make judgments in the organization (Beyer & Cameron, 1997; Cameron & Ettington, 1988; Lawrence & Nohria, 2002; Mitroff, 1983; Wilber, 2000). In this regard, Cameron and Quinn (1999) noted that the CVF describes the underlying dimensions that constitute organizational culture.

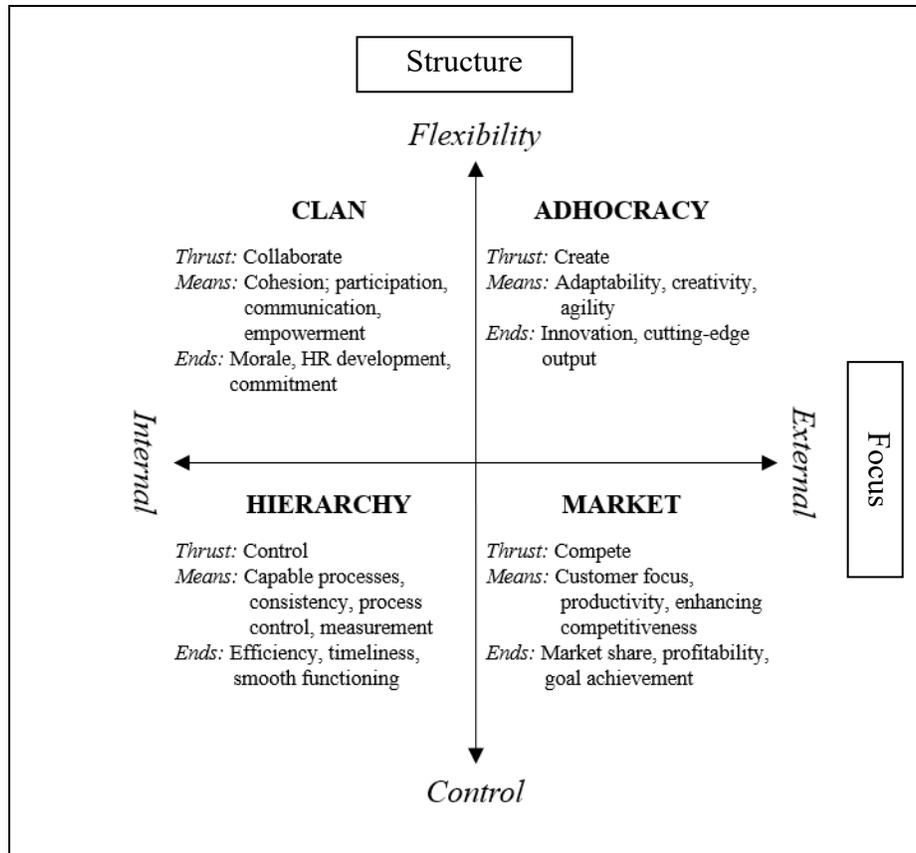


Figure 2. 2 Competing value framework suggested by Cameron et al. (2011)

### 2.2.2.1 Clan culture

Clan culture is located at the top-left quadrant, which focuses on internal maintenance and a flexible structure. Organizations with clan culture have concerns for people and pursue cooperation among members (Chang & Lin, 2007; Hartnell et al., 2011), creating a family-like workplace (Cameron, 2004), and enhancing effectiveness by developing and retaining employees (Cameron & Quinn, 2006). Clan culture builds an environment that feels like extended family (Hooijberg & Petroek, 1993) and encourages teamwork, employee involvement, and open communication among members (Cameron & Quinn, 2011; Hartnell et al., 2011). The organization is held together through loyalty, morale, and commitment (Dwyer et al., 2003). Berrio (2003) noted that clan culture is dominant in colleges where focus is placed on people. In terms of industry, Tharp (2009) exemplified Tom's of Maine, which sells all-natural toiletries. Under the leadership of Tom Chappell, Tom's created a workplace that respects relationships

with stakeholders including employees, customers, agents, suppliers, community, and environment.

Kim (2011) noted that leaders under clan culture are most effective through teamwork and joint decision making. Cameron and Quinn (1999) suggested that it is a managerial duty to provide a comfortable work environment where members are empowered to mitigate organizational issues. Managers and supervisors are perceived more as parents or mentors, rather than bosses. Management is minimized and becomes informal to enhance effective teamwork and joint problem solving. Internal competition is discouraged, as it is considered disruptive to organizational functioning. Loyalty and tradition are important to the organization, as they are maintained within the organization through the course of time. Organizational success is determined by the internal climate of the workplace (Kim, 2011). Thus, collaboration, involvement, and consensus are considered important to the members.

#### ***2.2.2.2 Adhocracy culture***

Adhocracy culture focuses on external position and a flexible structure that enables adapting to changes, which, in turn, lead to greater innovation (Chang & Lin, 2007; Grant, 2014; Hartnell et al., 2011). Adhocracy culture emphasizes creativity (Cameron & Quinn, 2011), entrepreneurship, adaptability, and dynamism (Cameron & Quinn, 1999). Teams are quickly formed and disbanded (Kim, 2011), and individuals are highly encouraged to take risk (Hartnell et al., 2011). Since these behavioral patterns are continuously reinforced to acquire and interpret new information, adhocracy culture is perceived suitable in knowledge conversion (Tseng, 2010). Managers allocate more resources on development activities and encourage employees to become involved with creative and innovative activities (Sok et al., 2014). In this respect, adhocracy culture is widely found in consulting and software development industries (Cameron & Quinn, 1999) such as Google (Tharp, 2009). Google took advantage of entrepreneurial software engineers and innovative processes. As a result, Google was able to promptly develop new services and capture market share.

Furthermore, power structure is decentralized to enable rapid decision-making in adhocracy culture. Teams are small in size; therefore, employees are often required to be acquainted with multiple levels of operation: customer contact, product development, production, etcetera. The work environment is dynamic, entrepreneurial, and innovative, and

leadership qualities such as inspiring vision, taking risks, and promoting inventiveness are appreciated in the organization (Cameron & Quinn, 1999). Consequently, organizations under adhocracy culture try to maintain up-to-date product development and to obtain a higher level of knowledge (Cameron & Quinn, 1999). The long-term organizational goal is to use new products that help rapid growth; and therefore, organizational success is measured by the ability to produce new products and services.

In adhocracy culture, innovation, and creativity are critical in increasing productivity and improving services in the organization. The ultimate goal of adhocracy culture is innovation and change (Fiordelisi & Ricci, 2014). Empirically, literature has concluded that there is a positive relationship between adhocracy culture and innovative entrepreneurial orientation (Engelen et al., 2014). Other research findings also show that adhocracy culture is positively related to financial effectiveness in the long-term (Hartnell et al., 2011).

### ***2.2.2.3 Hierarchy culture***

Hierarchy culture is internally oriented and focused on process control mechanisms (Hartnell et al., 2011). Hierarchy culture emphasizes control; therefore, organizations with a hierarchy culture strictly adhere to rules and processes to maintain stability and efficiency (Cameron & Quinn, 2006). Organizations with a hierarchy culture focus on stabilization and strive to control employee roles through policies and procedures (Goodman, Zammuto, & Gifford, 2001). This means employees are expected to meet specific expectations (Cameron & Quinn, 2006; Hartnell et al., 2011) through consistent and precise communication (Hartnell et al., 2011), and individual behaviors are bound by strict compliance to rules and guidance (Hartnell et al., 2011). Hierarchy culture reinforces workplaces that are structured (Cameron & Quinn, 1999). Miller (1987) noted that organizations become more structured and formalized with increasing size. Based on the notion that formal structure is enhanced through a compliance to rules and procedures, and formalization is required to gain control (Zeng & Luo, 2013), hierarchy culture is commonly found in government and large companies (Cameron & Quinn, 1999). Tharp (2009) exemplified McDonald's, Department of Motor Vehicles, and Ford Motor Company as organizations with hierarchy culture for their standardization/efficiency, rules/bureaucracy, and seventeen-level structures, respectively.

Hierarchy culture prioritizes efficiency and strict adherence to policies and procedures of the organization by which the organization unites to complete its goals (Kim, 2011). Leaders under hierarchy culture are excellent at coordinating as well as organizing (Cameron & Quinn, 1999), and they are efficient in functioning through standardization of process. Rules and regulations are consistently emphasized to train employees and to maintain process compliance. In this respect, hierarchy culture is effective and efficient in familiar situations that enable the organization to utilize existing standard procedures; however, this leaves the organization vulnerable to changes. That is, hierarchy culture lacks innovation and struggles with new issues that require a paradigm shift. This implies that organizations with a hierarchy culture fixate toward the area of their expertise and focus on increasing efficiency rather than innovation (Cameron & Quinn, 1999).

In this context, the ultimate goal of hierarchy culture is to achieve efficiency and effectiveness. Previous findings showed that there is a negative relationship between hierarchy culture and financial performance (Han, 2012). Cao et al. (2015) also found that hierarchy culture is negatively related to customer integration.

#### ***2.2.2.4 Market culture***

Market culture is externally oriented and focused on stability and control. Organizations with a market culture are transaction-based with third parties such as customers, suppliers, contractors, and regulators (Kim, 2011), and they are driven by clear goals to keep employees motivated (Hartnell et al., 2011). Individual behaviors tend to pursue aggressive growth strategies to outperform competition (Cameron & Quinn, 2006; Hartnell et al., 2011). The success of the organization is determined by contributions to the financial bottom line as competitiveness and productivity are maximized through managerial focus on external market positioning (Cameron & Quinn, 1999).

In this context, aggressive and competitive leadership quality is highly valued in the market culture, and managers are intended to improve a firm's competitive position through higher market share, productivity, and profits (Cameron & Quinn, 1999). Therefore, the work environment in a market culture is highly competitive, and employees without satisfactory performance are efficiently replaced. Miguel (2015) noted that leaders under a market culture

should be knowledgeable about their clients and market priorities and maintain a customer-driven approach (Han, 2012).

The ultimate goal of a market culture is high market share, revenue, high profit, growth, and productivity (Hartnell et al., 2011). Han et al. (1998) concluded that market-oriented culture has been considered a key element for improving organizational performance. Tharp (2009) noted that General Electric, under the leadership of Jack Welch, was an organization with a market culture. Jack Welch implanted a highly competitive organizational culture by announcing his intent to liquidate business divisions that were not industry leaders in their respective markets.

### **2.3 Organizational culture in the restaurant industry**

As noted, organizational culture guides employee behaviors that lead to business outcomes (Baird et al., 2007; Holmes & Marsden, 1996). However, the organizational culture of restaurant firms may have a greater influence on performance because of distinctive industry-specific attributes. For instance, restaurant firms offer perishable products (Shields, 2006) that cannot be premade and stored for future sales. Thus, the quality of products is highly subject to the skill set of employees in the back of the house. Furthermore, restaurant products involve more than product itself, providing an overall service experience as part of the offerings (Dawson, Abbott, & Shoemaker, 2011). This involves a close interaction between customers and employees. The intangible nature of restaurant products implies that customers rely on subjective evaluation of the service such as employee behavior guided by the organizational culture. This suggests that restaurant organizational culture may play a particularly greater role in driving organizational performance through its influence on employees. In fact, a number of previous studies noted that indoctrination via organizational culture has a positive effect on the organization in the hospitality industry (e.g., Davidson, 2003; Ogbonna & Harris, 2002). Davidson (2003) concluded that supportive organizational culture and climate lead to greater service ethics among employees, which, in turn, reinforces customer satisfaction. LeBlanc and Mills (1995) also noted that a strong organizational culture is necessary to improve organizations and performance in the hospitality industry.

Meanwhile, restaurant jobs are widely regarded as entry-level (Dermody, Young & Taylor, 2004), requiring fewer skills (Hipple, 1998). They are temporary in terms of work hours

and job tenure, low in job security (Bendick, Rodriguez, & Jayaraman, 2010; Zuber, 2001), and poorly paid (Curtis, Upchurch, & Severt, 2009). Consequently, these disadvantages often delimit the potential labor pool and lead to high turnover rates in the restaurant industry (Dawson, Abbott, & Shoemaker, 2011). In this context, restaurant firms have a great incentive to motivate their employees. Some studies (e.g., Ogbonna & Harris, 2002; Davidson, 2003) suggested creating a clan culture that is more of a free-flowing type of organization, limits structure, and reinforces informal lines of communication. Since clan culture sees employees as part of an interconnected, extended family, firms under clan culture understand the needs of the individuals and create higher sense of loyalty among employees. Furthermore, shared power structure (Kohn, 1999) and autonomy under clan culture would result in greater productivity (Koutroumanis & Alexakis, 2009).

With the success of franchising-oriented business strategy, restaurant firms have expanded their businesses rapidly. Consequently, production-line operation (Levitt, 1972) combined with division of labor enabled restaurant firms to achieve specialization and increase efficiency (Øgaard, Larsen, & Marnburg, 2005). Standardized products and services were prioritized in the multiunit operations, and tasks were routinized (Koutroumanis & Alexakis, 2009). Furthermore, firm-level direct monitoring of unit operation had become more difficult than in other industries because of the high frequency of franchising that inherently allowed for scattered operations. Under this circumstance, restaurant firms are highly bureaucratic (Tracey & Hinkin, 1994), involving formal policies, procedures, a hierarchical chain of command, scripted interactions for service encounters, and job specialization (Stamper & Van Dyne, 2001). By formalizing controls and processes, restaurant firms efficiently take control of scattered operation, ensuring standardized quality of service while maintaining high growth through franchising.

However, rapid expansion through franchising and operation standardization expedited market saturation in the restaurant industry (Øgaard, Larsen, & Marnburg, 2005). Moreover, increasing affluence among customers enabled customers to expect more than standardized service, seeking for products satisfies personalized needs (Poon, 1994). This implies that the value of standardization which had previously led to organizational success may become obsolete, while competitive advantages are more dependent on local adaptation, innovativeness and customization (Øgaard, Larsen, & Marnburg, 2005). Considering that restaurant offerings

are intangible, simultaneously produced and consumed, heterogeneous, and perishable (Parasuraman, Zeithaml, & Berry, 1985), the gratification of customer needs in the restaurant industry involve a higher level of customization (Jogarathnam, 2017). This suggests that restaurant firms need to become more market oriented to better cater to customer needs and achieve their business performance objectives (Lee et al., 2015; Wang et al., 2012), promptly adapting to rapidly changing market conditions (Jogarathnam, 2017).

Extended from the previous discussion on restaurant firms' market orientation, another consideration is that restaurant products are difficult to protect through patents and copyrights (Lee, Hallak, & Sardeshmukh, 2016). This implies that restaurant firms need to make further efforts to continuously engage in innovative activities to stay ahead of increasing competition (Agarwal et al., 2003). Moreover, that the industry is highly labor-intensive also suggests that implementing new management structures as well as new technologies to improve operational efficiency and to reduce related costs is essential in competing on price (Lin, 2013). As such, innovation is at the heart of sustainable success in the restaurant industry, as it enables omnidirectional improvement in operation such as enhancing the quality of service, improving efficiency, reducing costs, prompt response to changing customer needs, and differentiating themselves from competitors (Chang, Gong, & Shum, 2011). These restaurant-specific characteristics suggest that restaurant firms need to be continuously innovative in all aspects of their operation that involve not only products, but also service, process, management, and marketing activities.

In sum, restaurant industry-specific attributes are related to all types of the CVF previously discussed. This not only implies that organizational culture of restaurant firms may potentially be multifaceted, but it also suggests that there is a possibility of cultural interactions within organizations to achieve organizational goals. In this regard, restaurant firms may concentrate on certain culture types, depending on the organizational objective.

## **2.4 Organizational culture and restaurant performance**

One of the main objectives of this study was to reveal the effect of organizational culture on restaurant performance. It is understood that organizational culture is related to organizational performance and effectiveness (Ahmed, 1998; Berson et al., 2008; Cameron & Quinn, 2006; Kotter & Heskett, 1992; Saffold, 1988). Based on the notion that organizational culture plays a

key role in generating competitive advantage (Scholz, 1987), organizational culture is perceived important in determining organizational effectiveness (Deal & Kennedy, 1982; Schein, 1992; Wilkins & Ouchi, 1983) and performance (Denison & Mishra, 1995; Øgaard, Larsen & Marnburg, 2005; Sackmann, 2010). That is, organizational culture creates a competitive advantage by setting up the boundaries that expedite individual interactions with organizational functions (Ogbonna & Harris, 2000). Empirically, Zheng et al. (2010) confirmed that organizational culture is one of the key organizational assets that are widely studied in relation to organizational effectiveness. Similarly, Oparanma (2010) concluded that organizational culture facilitates a series of other activities that eventually lead to organizational success.

However, it should also be noted that literature on the organizational culture-performance relationship suffers from similar shortcomings insofar as it examines the contemporaneous effect of organizational culture on performance. For instance, it remains unclear whether subsequent changes in the organizational culture only immediately causes changes in the performance, whether the effect lasts in the long run, or if it has a lagged influence on performance. Similarly, Gordon and Di Tomaso (1992) noted that it is an important issue in organizational culture studies to examine the duration of the consistent effect of the culture strength. The uncertainty stemmed from the lack of longitudinal studies in the organizational culture literature partly due to methodology limitations (Robson, 2002). Although some studies covered the time horizon over which organizational culture could reasonably yield performance return, some of them were confined to specific case studies, thus unable to establish generalizability (Fairfield-Sonn, 1993; O'Regan & Lehmann, 2008) while others were very descriptive in analytical analysis (Beadles et al., 1995; Sackmann, Eggenhofer-Rehart, & Friesl, 2009; Gordon & Di Tomaso, 1992).

Given this consideration, this study proposed that organizational culture has a lagging effect on the firm performance. This is based on the nature of the restaurant business and the notion of the service-profit chain (Heskett et al., 1994). Service-profit chain is an interactive framework for understanding how a firm's operational investments into service operations are related to customer perceptions and behaviors, and how they translate into profit (Kamakura et al., 2002). In essence, the framework defined that a firm's performance is a product of a long serial link from employee satisfaction, higher quality of service, customer satisfaction, and customer loyalty leading to repeated purchase (Heskett et al., 1994). Therefore, any factors that indirectly influence performance through employee perception and behavior could be obscured

in the short window (Chi & Gursoy, 2009). Despite its seemingly irrelevance, the service-profit chain provides a foundation to argue that the effect of organizational culture on firm performance is realized in a delayed manner, and it requires some time to result in visible outcomes. For instance, if a firm pursues a specific organizational culture or increases the strength of a certain culture, it takes some time for a service firm to translate cultural orientation into visible outcomes since the process has to go through a serial link from culture to shared norms, then to behavior, to customer perception, and eventually to performance. In this respect, this study expected that it takes some time for an organizational culture to be absorbed among the members of organization and that the performance outcome could be deferred in relation to the time of cultural input. Therefore, it should be noted that any direct relationships between organizational culture and restaurant performance hypothesized later in this study represent lagged effects, rather than immediate influences.

Furthermore, previous studies neglected to provide in-depth explanation as to how each organizational culture relates to performance. However, not all organizational cultures are causally related to all performance. For instance, clan culture is distant from firm growth because its internal focus delimits its external impact. Adhocracy culture is also distal from productivity as its commitment to innovation impedes the operational consistency required for productivity. Hierarchy culture is weak in producing growth because firms prioritize the internal processes more than external market demand (Tesar & Moini, 1998). As such, each organizational culture directly leads to specific performance indicators only, rather than overall performances. In this respect, this study expected that: 1) clan culture relates to profitability and productivity; 2) adhocracy culture leads to growth and profitability; 3) hierarchy culture yields profitability and productivity; and 4) market culture only affects growth and productivity.

## **2.5 CVF and firm performance**

### **2.5.1 Clan culture and firm performance**

Based on the CVF, firms with a clan culture seek the solution to their potential issues by focusing on internal capacities, while allowing for flexibility within the organization. This subsequently leads to the development of human capital and human relations. Considering that the success of restaurant operation is subject to employee behaviors (Namasivayam & Denizci,

2006), restaurant firms with a clan culture focus on building a family-like workplace that reinforces a long-term relationship between employees and organization (Kerr & Slocum, 1987). Mutual unity is achieved through extensive socialization processes between old and new employees. Thorough inter-personal socialization, collaboration and cooperation become critical as socialization binds employees into the organization. Consequently, the organization is held together through loyalty, morale, and commitment (Dwyer et al., 2003). Since clan culture focuses internally, a conformity to shared norms and tradition among members is highly valued. Therefore, clan culture is distant from risk-taking or innovations (Kerr & Slocum, 1987). This implies that clan culture is also distant from organizational growth because its inherent internal focus delimits its impact externally in a form of restaurant growth. Indeed, Tseng (2010) noted that the clan culture emphasizes the long-term benefit of human resources, therefore its performance implication may be weaker than other culture values.

Meanwhile, clan culture is expected to negatively influence restaurant profitability. As noted, clan culture is mainly concerned with human relations (Ouchi 1980). The emphasis is placed on internal process with fostering shared understanding through greater human potential and member commitment (Denison & Spreitzer 1991). This means that firms need to make a considerable investment to build systems that enable knowledge-sharing among members. For instance, firms may need to implement a training program that enables longer-tenured employees to effectively mentor new hires. Furthermore, that restaurant industry has a high turnover (Dawson, Abbott, & Shoemaker, 2011) implies that firms may need to offer competitive compensation or provide other fringe benefits to maintain high employee retention and to increase long-term commitment and employee loyalty. This is specifically more substantial to the restaurant industry because the majority of restaurant employees are subject to minimum wage (Kim & Jang, 2020). Although such an investment to human resources eventually leads to an increase in the firm's bottom line (Heskett et al., 1994) the positive impact of clan culture on restaurant profitability may not be actualized in the short-window due to prolonged link from organizational culture to performance. Instead, the restaurant firm's investment in reinforcing clan culture directly reduces firm's profitability by making more expenditures on human development. Indeed, the high turnover nature of the industry (Dawson, Abbott, & Shoemaker, 2011) may further impose negative consequences for this organizational culture (Iverson &

Deery, 1997). Therefore, this study proposed that clan culture negatively relates to restaurant profitability:

*H1-1. Clan culture a negative influence on restaurant profitability.*

Meanwhile, this study expected that the clan culture positively influences productivity. Clan culture prioritizes long-term commitment and employee development through socialization process, and is driven by values of attachment, affiliation, trust, and support (Cameron et al., 2006). These values form individual behavior by instilling organizational norms that define appropriate behaviors within the organization (O'Reilly & Chatman, 1996). Therefore, clan culture guides members to share in teamwork, involve with decision making, and engage in open communication. In return, these behaviors result in a desirable employee attitude with a sense of ownership and responsibility (Denison & Mishra, 1995). In this respect, clan culture is highly related with positive employee attitudes (Hartnell et al., 2011). Moreover, as collaboration and cooperation are highly encouraged under clan culture, knowledge-sharing and best operating practices could be smoothly transferred from one employee to another. This means that members actively share information and collaborate in identifying, as well as in overcoming, weaknesses within internal process. Consequently, individual work productivity is expected to improve under clan culture. However, it should be noted that clan culture is less adept in identifying market demand because it focuses on internal process (Hartnell et al., 2011). This suggests that clan culture is relatively slow in responding to changing market demand, which is critical to restaurant productivity (Koh et al., 2015). Therefore, it should take some time for clan culture to yield visible productivity gains. Furthermore, the prolonged chain link from organizational culture to performance also implies that there is a time lag between clan culture and restaurant productivity. Therefore, this study hypothesized as follows:

*H1-2. Clan culture has a positive influence on restaurant productivity.*

## **2.5.2 Adhocracy culture and firm performance**

Adhocracy culture focuses on external position and a flexible structure that enables adapting to changes, which in turn lead to innovation (Chang & Lin, 2007; Grant, 2014; Hartnell

et al., 2011). A fundamental assumption in an adhocracy culture is that change leads to creating and acquiring new resources (Hartnell et al., 2011). Adhocracy culture is characterized as a dynamic, entrepreneurial, innovative, and creative workplace (Cameron, 2004; Cameron & Quinn, 2006; Tseng, 2010), and emphasizes developing new products, adapting to changing environments, and experimenting with new ideas (Cameron, 2004; Cameron & Quinn, 2006; Tseng, 2010). These characteristics reflect external orientation and work well with knowledge conversion and improving organizational performance (Tseng, 2010). In this respect, adhocracy culture fosters a workplace where members are encouraged to take risks and become creative to satisfy to unique customer needs (Cameron et al., 2006). Employee initiative and spontaneity are valued, and employees pursue growth, flexibility, and variety. Furthermore, the flexible nature of the organizational structure under an adhocracy culture emphasizes adaptability, employee creativity, and innovation (Aiken & Hage, 1971). An external focus further enables employees to develop new market segments as well as new customer needs through consistent monitoring (Miller & Friesen, 1982). It should be noted that, although adhocracy culture induces members to come up with new, ad hoc solutions to improve product and service, it is distant from generating restaurant productivity. This is because members under adhocracy culture are less likely to produce consistency and reliability that routinize products and service quality due to its responsiveness to unique customer needs.

Meanwhile, this study expected that adhocracy culture positively influences restaurant growth. As noted, adhocracy culture emphasizes developing new product, adapting to changing environment, and experimenting new ideas (Cameron, 2004; Cameron & Quinn, 2006; Tseng, 2010) which in turn influence its members to be involved in innovative activities. Because adhocracy culture focuses on the external environment and ability to develop new market needs, firms with an adhocracy culture have a greater potential to positively influence firm growth (Kim et al., 2014). This means that members are able to identify new market segments and unfulfilled customer needs more readily through environmental scanning (Miller & Friesen, 1982). Considering that attention to external market and product innovation are vital to firm growth (Brush, Ceru, & Blackburn, 2009; Goedhuys & Veugelers, 2012), adhocracy culture positively influences firm growth. Therefore, this study hypothesizes:

***H2-1. Adhocracy culture has a positive influence on restaurant growth.***

In terms of the profitability, adhocracy culture is expected to negatively influence restaurant profitability because of the inter-relationship between growth and profitability. Neoclassical perspective argued that firms exploit most profitable growth opportunities and then consider less profitable options until the marginal profit becomes none (Jang & Park, 2011). This implies that although firms remain profitable or pursue net positive profit, the profitability decreases as the firm grows. This is no different to the effect of adhocracy culture. Firms under an adhocracy culture try to maximize their profitable growth opportunities while going through decline in the profitability. Furthermore, restaurant firms pursue growth by selling existing products through geographical diversification or through merger and acquisitions (Dwyer et al, 2003). This further suggests that innovation in the restaurant industry often requires costly investment (Greve, 2011), and that prohibitively high cost is incurred not only with successful innovation, but also unsuccessful innovative efforts. Combined with the potential risk of failure involved with the innovation (Korableva, Gorelov, & Shulha, 2017), adhocracy culture aggravates the cost structure and can have a negative impact on firm profitability. Therefore, this study hypothesizes:

*H2-2. Adhocracy culture has a negative influence on restaurant profitability.*

### **2.5.3 Hierarchy culture and firm performance**

Hierarchy culture is internally oriented and driven by an organizational structure that pursue control mechanisms (Hartnell et al., 2011). The core assumption in a hierarchy culture is that control, stability, and predictability lead to improving efficiency. Employee roles are well specified, and employees are required to meet expectations indicated by job descriptions and guidelines (Cameron & Quinn, 2006; Hartnell et al., 2011). In this regard, Quinn and Kimberly (1984) noted that a hierarchy culture promotes precise communication, routinization, formalization, and consistency. Desired employee behaviors under a hierarchy culture include conformity and predictability, which in turn facilitate efficiency, timeliness, and fluent functioning (Denison & Spreitzer, 1991). Since a strict adherence to rules and processes secures long-term stability and efficiency (Cameron & Quinn, 2006), compliance to rules and policies are considered critical in a hierarchy culture. The long-term concern of hierarchy culture is stability, predictability, and efficiency (Cameron, 2004; Tseng, 2010). Furthermore, hierarchy

culture focuses on internal integration rather than external differentiation for business opportunities. This implies that hierarchy culture seeks stability rather than growth and focuses on predictability rather than taking risk in seeking business opportunities (Cameron, 2004; Tseng, 2010). Tesar and Moini (1998) argued that internally oriented firms are preoccupied with the internal process rather than the external differentiation. Given these considerations, the hierarchy culture is considered distal from fostering organizational growth and has no discernable effect on restaurant growth.

Meanwhile, hierarchy culture is expected to positively influence restaurant profitability. In the hierarchy culture, employees are expected to comply with predefined roles and to meet specified expectations indicated by job description and guideline (Cameron & Quinn, 2006; Hartnell et al., 2011). Through the processes strictly adhere to regulations, employee behaviors conform to the rules and become predictable. As a result, firms with hierarchy culture are able to obtain standardization, consistency, and efficiency (Denison & Spreitzer, 1991). The organizational functioning becomes efficient, which reflects a conservative posture toward market risk (Pierce, 1982). Considering that primary goal of standardization is to control output activity and service quality while maximizing efficiency (Wang et al., 2010), standardization increases profitability (Kende, 1991) through cost reduction and enhanced reliability (Wang et al., 2010). In this respect, employees under a hierarchy culture are expected to deliver within minimal time and cost, yet are able to maximize the reliability, ultimately increasing restaurant profitability. Furthermore, increasing profitability requires a comprehensive understanding of internal process and an in-depth knowledge of detailed operation models (Tsai, 2001). Since hierarchy culture refers to internalized rules and regulations through tight control, precise communications, and vertical decision-making process, it is logical that a hierarchy culture positively influences profitability. The control nature of a hierarchy culture is more critical and discernable in the restaurant industry because the reliability of the service acquired from standardizing service design and delivery is the most critical factor influencing perceived quality of service and satisfaction (Parasuraman et al., 1988). Indeed, the restaurant industry has previously been considered highly bureaucratic in their management (Tracey & Hinkin, 1994). Therefore, this study hypothesizes:

***H3-1. Hierarchy culture has a positive influence on restaurant profitability.***

Similarly, a hierarchy culture is expected to enhance restaurant productivity. The theory of swift, even flow recognizes that productivity increases with the speed by which operation flows through process, while it decreases with the variability related to the flow (Schmenner & Swink, 1998; Schmenner, 2001), suggesting that productivity is enhanced with smooth operation. As noted, the hierarchy culture emphasizes capable processes that enable consistent, smooth-run operations. Hierarchy culture effectively utilizes formalized control, process, and compliance to gain stability and efficiency (Cameron, 2004). Since compliance to rules and processes provides efficient control of operation and enables consistent functioning, hierarchy culture has a positive impact on the productivity. Therefore, this study hypothesizes:

*H3-2. Hierarchy culture has a positive influence on restaurant productivity.*

#### **2.5.4 Market culture and firm performance**

A market culture is externally oriented and reinforced by a control-focused structure. According to the CVF, an assumption of market cultures is that focusing on achievement produces competitiveness and aggressiveness, immediately resulting in productivity and value in the short term (Cameron & Quinn, 1999). The fundamental belief of a market culture is that clear goal-setting and contingent rewards facilitate employees to outperform competition. Therefore, it has a control structure and an external orientation where members are goal-oriented and emphasize planning, performance, and efficiency. In the process, firms under a market culture value communication, competence, and achievement, and behaviors such as planning, task focus, and centralized decision are highly promoted. Prompt responsiveness to customers can result in better performance through timely market intelligence, joint product development, and strong brand loyalties (Peters & Waterman, 1982). Market culture can also influence performance since organization is able to adapt to its environment (Kim et al., 2004; Kotter & Heskett, 1992; Saffold, 1988). Han et al. (1998) argued that market-oriented organizational culture is a key element of superior corporate performance.

This study expected that market culture positively influences restaurant growth. Since market culture is focused on the external market, firms under a market culture are competitive in gaining new customers and aggressively attack competitors' market share (Cameron & Quinn, 1999; Deshpande & Farley, 2004; Narver & Slater, 1990) by offering quality products and

services at a competitive price (Quinn & Kimberly, 1984). That is, firms in the market culture maintain an external focus on customers to collect the competitive insight regarding changing customer needs and expectations (Cameron et al., 2006). Then the information gathered from market monitoring is internally transferred to produce desirable product and services (Pelham & Wilson, 1996; Verhees & Meulenber, 2004). As a result, market culture is able to increase firm growth by offering products and services that satisfy the market demands. Therefore, this study hypothesizes:

***H4-1. Market culture has a positive influence on restaurant growth.***

Meanwhile, this study further expected that a market culture aggravates restaurant productivity. As noted, firms under market culture emphasize corporate activities that seek to understand and satisfy customer needs. Firms with a market culture use information gathered from market monitoring to offer desirable products and services (Pelham & Wilson, 1996; Verhees & Meulenber, 2004). Although market culture has a formal governance structure that focuses on external market to achieve effectiveness in the market (Hartnell et al., 2011), it should be noted that the market effectiveness doesn't directly lead to efficient operation. Since the strategic and operational focus of a market culture is on satisfying the external market, firms inherently put less emphasis on internal operational efficiency. Furthermore, that customer needs are unique and constantly evolving (Cameron et al, 2006) implies that there is much variability within the flow of operation in order to satisfy different demands. As a result, overall efficiency decreases, thereby deteriorating individual productivity. Indeed, effective market orientation that fosters high level of customer satisfaction is known to be achieved at the expense of reduced efficiency (Sheth & Sisodia, 2002). In this regard, a market culture is expected to have a negative impact on productivity. Therefore, this study hypothesizes:

***H4-2. Market culture has a negative influence on restaurant productivity.***

## **2.6 Implication of service orientation in the restaurant industry**

Restaurant has a unique service structure that offers both tangible and intangible service products (Lee & Yoon 2006; Yi & Lee 2014). For restaurant firms, service orientation is an internal design similar to organizational culture at the organizational level (Lyte et al., 1998). This is because a restaurant's operational success is based on greater customer satisfaction achieved through specific service-oriented procedures. Therefore, service orientation reveals systematic efforts as to how a firm approach can achieve higher customer satisfaction (Brown et al., 1998). For instance, if a restaurant is oriented toward intangible services, the restaurant gains competitive advantages through offering high quality service delivery mechanisms such as friendliness, product knowledge, customer communication, etc. (Kim, Lee, & Yoo, 2006). In return, this intangible focus leads to higher customer satisfaction, and ultimately enhances overall firm performance (Brown et al., 2002). Meanwhile, if a restaurant firm focuses on tangible services, the restaurant gains competitiveness through providing high quality product, facilities, equipment, personnel appearance and decoration (Barber, Goodman, & Goh, 2011; Raajpoot, 2002). Consequently, tangible service could lead to greater pleasure and customer satisfaction (Barber et al., 2011). As such, service orientation significantly influences the creation of superior value (Lytle & Timmerman, 2006) and restaurant firms with different service orientations try to achieve their organizational goals differently. In this respect, it is widely understood that service orientation is prerequisite for the success of service firms (Parasuraman, 1987). Since service orientation is an internal organizational factor used to implement organizational strategy (Smircich, 1983), it is often considered a specialized culture within a concept of organizational culture, promoting philosophies to its members (Martin, 1985).

It is important to note that restaurant firms encompass both tangible and intangible service orientations in their operation simultaneously. Since restaurants offer both tangible and intangible services to their customers regardless of their operation types (i.e. full-service restaurants, quick-service restaurants, franchise, non-franchise, etc.), restaurant business is inherently duplex in terms of their service orientation. However, it should be further noted that, based on their product market strategy, restaurant firms strategically choose one service orientation they focus more than the other. As a result, it determines how a restaurant firm tries to achieve its organizational goal between tangible and intangible service orientations.

### **2.6.1 Tangible and intangible service orientation**

Tangible service orientation refers to a restaurant organization's commitment toward achieving and providing high quality tangible services, which include the product and other tangible aspects of service, such as design, social, and ambiance (Baker, 1987). First, the product represents the core element that connects restaurants with customers, and it interacts with all components of restaurant operation. Therefore, it is utilized as internal control mechanism and marketing tool (Gregoire & Spears 2009). Internally, the product includes the menu item, menu variability, freshness, and nutrition, while externally it incorporates food presentation. Distinctive product characteristics in the restaurant context is that ownership of the service shifts from restaurants to consumers at the point of transaction. Second, design represents the functional quality of the space such as furnishing, interior color, and facility layout, which enables ease of movement (Lee, Lee, & Dewald, 2016). Third, the social aspect of tangible service is related to employees. Baker (1987) noted that employees impose substantial impact on the perception of surrounding. For instance, appropriate appearance of employees could indirectly affect the quality of tangible services provided in the restaurant. Last, the ambience represents the aesthetic aspect of tangible services such as aroma, temperature, light, etc. (Baker, 1987), which assist focal tangible service (i.e. product) in achieving higher customer perception of the surrounding's beauty and décor (Lee et al., 2016).

Meanwhile, intangible service mainly relates to the delivery of tangible services that permits service delivery experience (Bowen & Ford, 2002). Unlike tangible service, intangible service does not involve shift of ownership, rather it only offers benefits to consumers during transaction (Parasuraman et al., 1985; Metters et al., 2006). It includes attributes related to service delivery such as friendliness, knowledge, employee capacity, and customer communication (Kim et al., 2006). Since intangible service is associated with the behavioral aspects of service between employees and customers, it is highly labor-intensive and subjectively assessed (Parasuraman et al., 1988; Stevens et al., 1995; Yi & Lee, 2014).

### **2.6.2 Service orientation and organizational culture**

It is important to note that the focal element of tangible service is the product (Lee et al., 2016), which is considered to have great importance in gaining customer loyalty (Clark & Wood, 1999). In this respect, tangible service-oriented restaurant firms may allocate more resources on

maintaining product that is of superior quality, because greater product quality yields higher market demand (Ramseook-Munhurrin, 2012). This further implies that tangible service-oriented firms focus on strictly following standard operating procedures (SOP) to maintain consistent product quality. This characteristic of tangible service orientation becomes more substantial if the restaurant firms are franchised or geographically dispersed because it would be more difficult for them to monitor the production process at the unit-level. In this respect, tangible service-oriented restaurant firms tend to be highly hierarchical operations in order to maintain consistent product quality.

Furthermore, tangible service-oriented restaurant firms also tend to be highly market-oriented. Since restaurants are product-focused, they are obliged to offer products that meet the market expectation and demands. This means that they need to respond promptly to market demands by continuously monitoring consumer trends. Considering changing needs or consumer expectations, this further implies that tangible service-oriented firms should maintain a structure that enables prompt product development. In this process, tangible service-oriented restaurants develop organizational climates that enable quick decision-making, immediate reaction, expedited development, and a task-orientation. As such, tangible service-oriented restaurant firms are more market centric than intangible service-oriented firms.

Meanwhile, intangible service-oriented restaurant firms are highly process-centric. Since intangible service refers to the delivery mechanism itself that permits service experience (Brown & Ford, 2002), intangible service-oriented firms prioritize smooth operation of process rather than the product. In this respect, they are concerned with customer satisfaction related to the service delivery system. Considering that service delivery is a process that involves interaction between employees (i.e. cook and server, host, and server), intangible service-oriented restaurant firms promote organizational culture that enables open communication between employees and collaboration in delivering products. Besides, the restaurant industry has a high turnover rate. This suggests that intangible service-oriented restaurant firms may also invest more into human resources in order to maintain higher employee retention. As such, an intangible service orientation focuses on the human factor of the operation in order to execute high service delivery quality.

In addition, intangible service-oriented restaurant firms also are highly innovative. Restaurant operation is labor-intensive. Intangible service-oriented firms are perhaps more

dependent on labor production because their core operational emphasis is heavily dependent on the performance of their employees. In this respect, intangible service-oriented restaurant firms tend to be more concerned with gaining greater productivity, because greater productivity implies efficient processes. In other words, they incentivize their employees to innovate activities that lead to greater efficiency in the delivery process.

### **2.6.3 Moderating role of tangible service orientation on the culture-performance relationship**

Based on the notion that tangible service orientation could maximize the functioning of hierarchy and market cultures, this study expected that tangible service orientation positively moderates the relationship between hierarchy and market cultures, and restaurant performance, while negatively moderating the relationship between clan and adhocracy cultures, and restaurant performance. Therefore, this study hypothesizes:

*H5-1. Tangible service orientation negatively moderates the effect of clan culture on restaurant performance.*

*H5-2. Tangible service orientation negatively moderates the effect of adhocracy culture on restaurant performance.*

*H5-3. Tangible service orientation positively moderates the effect of hierarchy culture on restaurant performance.*

*H5-4. Tangible service orientation positively moderates the effect of market culture on restaurant performance.*

## **2.7 Implication of franchising in the restaurant industry**

Franchising is a revenue-maximizing operation system for restaurant companies where franchisors own and operate their own distribution units while simultaneously extend their distribution rights to third parties (Srinivasan, 2006). The key in the franchising system is that franchisors grant a legal right to utilize franchisors' intangible assets as well as distribution process to their franchisees (Caves & Murphy, 1976) in exchange for royalties or fees (Elango & Fried, 1997).

Restaurant companies widely expand their operation through franchising (Hsu & Jang, 2009; Seo & Sharma, 2018). The resource scarcity theory recognizes that firms franchise to finance limited resources required for their expansion (Hsu & Jang, 2009). Since franchisees invest their own resources into franchised operation, franchisors have less financial and resource burdens related to expansion. This implies that restaurant firms are able to expand their business with less resources at hand. Empirically, Lafontaine (1992) and Dant (1995) found that access to capital is one of main reasons behind franchising. Meanwhile, agency theory explains that firms franchise to efficiently monitor operating units. According to the theory, firms must spend more on monitoring costs in order to properly supervise managers due to their potential shirking (Hsu & Jang, 2009). However, franchising reduces franchisors' monitoring costs (Lafontaine & Kaufmann, 1994) since franchisees are owner-managers who share the residual claim of profits generated from franchised operation. Therefore, franchisees are less likely to shirk from their duties compared to unit managers hired by company (Hsu & Jang, 2009). In this regard, franchising is preferred over company-owned operations from the agency theory perspective.

Furthermore, Rubin (1978) noted that firms franchise to avoid potential operation risks (Seo & Sharma, 2018). Risk-sharing theory recognizes that franchising enables franchisors to rightfully utilize franchisees' resources, therefore shift franchisors' investment and capital risk to franchisees (Roh, 2002; Lafontaine & Bhattacharyya, 1995). This means that franchisors are able to share the risk with franchisees. For instance, restaurant firms can significantly reduce risks when franchising in newer (i.e. international) or unknown locations. In this process, restaurants utilize franchisees' local knowledge as well as expertise and eventually minimize potential business risks in the region.

From an operational perspective, franchising facilitates restaurant expansion through rapid market penetration (Lillis et al., 1976). The is based on the notion is that firms are able to achieve greater competitiveness through economies of scale (Carney & Gedajlovic, 1991; Roh, 2002; Sen, 1998). Since restaurant firms increases their market share through franchising, the volume of their purchase as well as their purchasing power substantially increases with bulk transactions (Emerson, 1990; Michael, 2003). Considering that higher market share leads to a greater efficiency (Demsetz, 1973), franchising is considered one of main expansion strategy (Shane, 1996). In this regard, franchising is considered an effective operational tool in gaining greater market power and improve profitability.

In addition, Koh et al. (2018) noted that franchising stabilizes restaurant firms' cash flow because franchisees become a consistent source of franchising fees or royalties. This means that since franchisees are obliged to pay franchisors franchising fees, franchise restaurants with a dual mode of company-owned and franchised operations can enjoy steady earnings from franchised units that could not be realized otherwise. Moreover, the lesser risk associated with franchised units allows franchise restaurants with a dual mode to avoid the cost inefficiencies of franchisees (Caves & Murphy 1976; Koh et al., 2013). This suggests that franchise restaurants benefit from less volatile cash flows compared with non-franchise operations (Koh et al., 2015).

In light of the economic and operational benefits that franchising offers to restaurant firms, this study expected that franchising positively moderates the organizational culture-performance relationship. First, franchising is a business model that expedites growth (Hsu & Jang, 2009; Seo & Sharma, 2018). It enables restaurant firms to expand geographically with existing products, services, and limited resources (Hsu & Jang, 2009) by utilizing franchisees' capital and resources (Lafontaine, 1992). This suggests that franchising could help marketing and selling products to the extended markets that were not accessible otherwise. Considering that adhocracy and market cultures are expected to influence growth, this implies that the positive effect of adhocracy culture and market culture on restaurant growth could further be maximized with the growth mechanism that franchising brings to restaurant firms. In this respect, franchising is expected to positively moderate the relationship between organizational culture and restaurant growth. Therefore, this study hypothesizes:

***H6-1. Franchising positively moderates the effect of organizational culture on restaurant growth.***

Second, this study expected that franchising positively moderates the organizational culture-profitability relationship in the restaurant industry. As noted, franchising reduces capital risks related to the expansion (Roh, 2002; Lafontaine & Bhattacharyya, 1995) while helping restaurant firms gain competitive cost structures through economies of scale (Carney & Gedajlovic, 1991; Roh, 2002; Sen, 1998) and stabilize net cash flows by collecting franchising fees or royalties (Koh et al., 2015). These economic benefits allow franchising to offer a certain level of capital surplus (Kim & Jang, 2020) that wouldn't exist if unfranchised. Considering that

clan, adhocracy, and hierarchy cultures influence restaurant profitability, this suggests that this capital surplus could make up for the losses caused by extra expenditures in human resources under clan culture and in innovations under adhocracy culture. That is, franchising could function as a financial buffer that provides capital cushion against profitability losses for restaurant firms. Moreover, this further implies that the positive effect of hierarchy culture on restaurant profitability could further be maximized under a franchising mode. In this reasoning, franchising is expected to positively moderate the relationship between organizational culture and restaurant profitability. Therefore, this study hypothesizes:

***H6-2. Franchising positively moderates the effect of organizational culture on restaurant profitability.***

In terms of productivity, this study expected that franchising positively moderates the organizational culture-productivity relationship in the restaurant industry. Rubin (1978) noted that franchising decision is based on the principal-agent issue related to higher monitoring costs when agents supervise geographically dispersed units. In this respect, franchisors choose to franchise because franchisees are owner-managers who share the residual claim of profits generated from the franchised operation. Therefore, franchisees are less likely to shirk their duties (Hsu & Jang, 2009). This implies that if productivity falls with increasing dispersion of units (Norton, 1989), productivity should decline less for franchised units because franchisees who have much incentive to maximize their wealth run franchised units as a supervisor of operation. This means that franchising could maximize the positive effect of clan and hierarchy cultures on restaurant productivity, which could offset the adverse effect of market culture on restaurant productivity. Therefore, this study hypothesizes:

***H6-3. Franchising positively moderates the effect of organizational culture on restaurant productivity.***

## **2.8 Implication of economic conditions on the restaurant industry**

It is widely understood that recession can severely affect the firm performance (Donowitz, Hubbard, & Peterson, 1988; Gabisch & Lorenz, 1987; Zarnowitz, 1985). The restaurant industry is no different. The effect of the economic conditions on restaurant performance is well documented (e.g. Chen, 2010; Jaing & Dalbor, 2017; Koh, Lee, & Choi, 2013; Mashhadi & Ijaz-Ur-Rehman, 2012). Mashhadi and Ijaz-Ur-Rehman (2012) noted that restaurant performance is causally related to employment and consumer income, because consumers' restaurant expenditures reflect better life patterns determined by economic condition (Deane, 1987). The restaurant industry is certainly vulnerable to economic fluctuation, perhaps even more so than other industries (Enz, 2009). Since economic condition determines the level of discretionary income available for restaurant spending (Koh et al., 2013; Mashhadi & Ijaz-Ur-Rehman, 2012), restaurant performance is substantially influenced by the economic environment. Hiemstra and Kosiba (1994) revealed a positive relationship between disposable income and restaurant sales, and Lee and Ha (2012) confirmed the positive correlation between gross domestic product (GDP) and full-service restaurant sales.

The restaurant business is particularly more vulnerable during times of economic distress (Gu, 1993). During recession, economic indicators become negative; gross domestic product (GDP) is reduced, individual income falls, consumer spending declines, and ultimately profits decrease (Krugman, 2009). Consumer demand and corporate profitability tend to fall at the early stage of a recession and that lack of profitability leads to a decline in firm value (Mankiw, 1989). Consequently, restaurants are substantially influenced by recessions. For instance: the restaurant sector recorded 5 consecutive months of job losses during the great recession that started in 2008 (National Restaurant Association, 2008); restaurant profit margins were further aggravated (Zheng, Farrish, & Wang, 2013); and the top 26 publicly traded restaurant firms lost 49% of their value over the 52-week window (Krantz, 2009).

Considering these adversities during the recession, firms needed to adjust their operations accordingly to increase profits and survive (Deane, 1987). For instance, many firms downsized and restructured their operations to create a lower cost base and remain competitive (Prabhu, 2010). The cost-reducing trend was the same for the restaurant industry. At the onset of the recession, many restaurants made considerable adjustments in their strategy and engaged in cost-cutting retrenchment (Appelbaum, Batt & Clark, 2013) contingent on economic fluctuations

(Boxall & Macky, 2009): payroll cuts (Hutchinson, Murrmann, & Murrmann, 1997), work hour adjustment (Cappelli, 2000), layoffs (Felstead et al., 2012), and downsizing units (Hutchinson et al., 1997).

Based on the discussion above, this study expected that recessions negatively moderate the organizational culture-growth relationship. Although products of innovative activities result from adhocracy culture, and market-demanding services developed under market culture may satiate market expectation and increase restaurant growth, restaurant growth is confined by the invisible boundaries set by adverse economic conditions. In other words, there may not be much market demand for restaurant firms during the recession because demand is a function of employment, consumer income, and discretionary income, which are all substantially exacerbated by economic slumps. This suggests that any additional growth caused by adhocracy and market cultures declines by the limitations set by the recession. Therefore, recessionary periods are expected to negatively moderate the positive effect of organizational culture on restaurant growth. This study hypothesizes:

***H7-1.** Recession negatively moderates the effect of organizational culture on restaurant growth.*

Meanwhile, this study expected that recession would positively moderate the organizational culture-profitability relationship. As noted, restaurant profits substantially decrease during recessions (Krugman, 2009; Zheng et al., 2013) mainly due to their inherent vulnerability to economic conditions (Gu, 1993). However, it should be noted economic conditions may cause substantial changes in individual behavior. Shirking theory (Shapiro & Stiglitz, 1984) noted that there is a greater chance of employees losing jobs during a recession. Consequently, since employees fear to lose jobs more during a recession, they are more inclined to improve their performance. This suggests that the adverse effect of clan and adhocracy cultures on restaurant profitability could be mitigated, while positive effects associated with a hierarchy culture could be maximized during a recession. Furthermore, unlike firm growth, making internal adjustments and motivating employees could substantially improve profitability. This means that recession could function as a motivating agent for restaurant firms. In this respect, recession is expected to positively moderate the relationship between organizational culture and restaurant profitability. Therefore, this study hypothesizes:

*H7-2. Recession positively moderates the effect of organizational culture on restaurant profitability.*

Similarly, this study expected that recession would positively moderate the organizational culture-productivity relationship. Again, based on the Shirking theory (Shapiro & Stiglitz, 1984) employees could be more motivated to meet organizational performance standards (Bewley, 1998) as they try to maintain their employment during a recession. In this respect, economic recession stimulates higher employee productivity while reducing monitoring costs. This suggests that a recession could maximize the positive effect of clan and hierarchy cultures on restaurant productivity, while offsetting the adverse effect of market culture on restaurant productivity. Therefore, this study hypothesizes:

*H7-3. Recession positively moderates the effect of organizational culture on restaurant productivity.*

## **2.9 Research framework**

This study examined the relationship between organizational culture and restaurant performance with specific focus on the moderating roles of 1) service orientation, 2) franchising, and 3) economic condition. This study differs from previous studies by relating each organizational culture with specific performance measurements, and by studying the role of industry-specific contexts in the organizational culture-performance relationship. This study proposes to provide better understanding of how organizational culture influences performance in the restaurant industry. Figure 3 illustrates the model framework of this study.

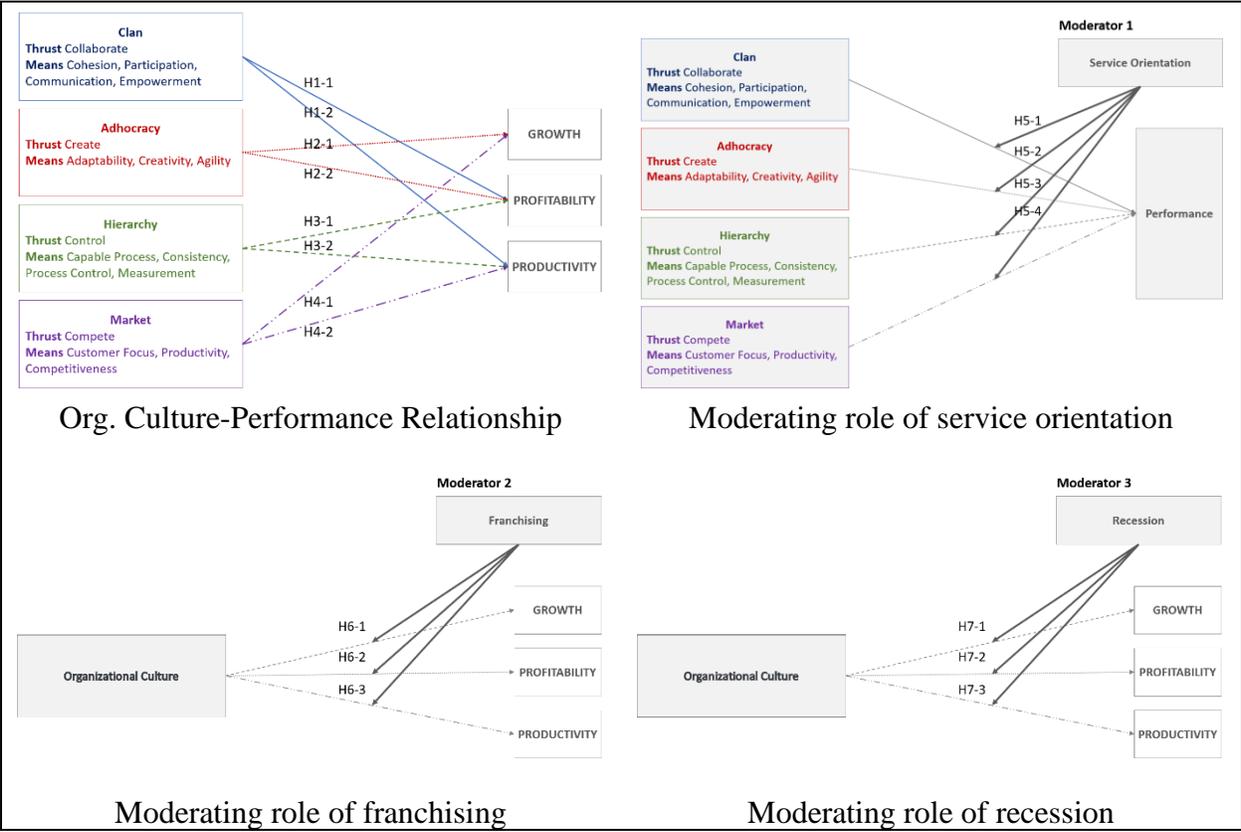


Figure 2. 3 Model framework of this study

## **CHAPTER 3. METHODOLOGY**

### **3.1 Data**

This study used annual data of publicly traded restaurant firms in the United States listed under the NAICS code of 722513 (limited-service restaurants) and 722511 (full-service restaurants) for the period from 2000 to 2018 and included a total of 112 companies and 784 observations. Of the 112 restaurant firms, 90 firms were intangible-service focused (e.g. California Pizza Kitchen, Inc., Fogo De Chao, Inc., Shake Shack, Inc., etc.) while 70 firms were tangible-service oriented (e.g. Bloomin' Brands, Inc., Brinker International, Inc., Darden Restaurants, Inc., Jack in the Box, Inc., McDonald's Corp., Wendy's Co., etc.) with duplication. There were two primary data sources used in this study. First, the Compustat Fundamental Annual Database was referenced to collect performance data such as firm growth, profitability, and productivity as well as key financial variables such as advertising expense, operating cash flow, debt, and total assets. Second, Form 10-Ks of restaurant firms were retrieved from the Edgar Database of the Securities Exchange Commission website. Each restaurant firm Form 10-K was manually referenced to collect franchising information. More importantly, this study utilized the textual information of Form 10-K to extract organizational culture information as well as the service orientation of the restaurant firms. Specifically, text data of item 1 (Business), item 1A (Risk factors) of Part 1, and item 7 (Managerial Discussion and Analysis) were collected from Form 10-K and converted to quantifiable data using text mining. Company financials were merged with organizational culture and the service orientation databases using company names and firm year. It should be noted that this study excluded 1% of extreme variable values used in this study to minimize the effect of outliers. Therefore, observations with the highest 1% or the lowest 99% values for each variable used in this study were dropped from the analysis. Appendix 1 displays the list of restaurant companies used in the analysis.

### **3.2 Variables**

#### **3.2.1 Dependent variables**

To reiterate, this study proposes to examine the effect of organizational culture on firm performance. Since firm performance is a subset of organizational effectiveness (Venkatraman &

Ramanujan, 1986) that represents operational and financial results (Santos & Brito, 2012), this study employed both operational and financial performance indicators as dependent variables. It is undeniable that profit and growth are inherent objectives for any business (Santos & Brito, 2012). Therefore, this study employed firm growth and profitability as dependent variables to represent financial performance. Furthermore, a number of researchers (Bloom, 1972; Doutt, 1984; Reynolds, 2003) noted that productivity is important in service operations (Reynolds & Thompson, 2007). Based on the notion that productivity is critically related to both growth and profit (Brown & Dev, 1999), this study also utilized firm productivity as a third dependent variable to see the effect of organizational culture on firm's operational performance.

This study used total sales growth as a measure of firm growth. Total revenue represents firm growth actualized in terms of sales. Considering that growth is a relative measure observed over time (Whetten, 1987), this study used year over year growth of sales (*GROWTH*) as a growth measurement. *GROWTH* was calculated as the difference of sales between two consecutive years divided over the sales of the earlier year. Indeed, the majority of literature concerned with firm growth uses sales or revenue as a concept of growth (Whetten, 1987).

In terms of firm profitability, return on equity (*ROE*) was used in this study. *ROE* measures the effectiveness of firm's management in handling shareholder's investments to generate profit (San & Heng, 2013). Therefore, higher *ROE* is preferred as it suggests that management is efficient in managing shareholders' fund. Furthermore, it should be noted that *ROE* could be decomposed into equity multiplier and return on assets (*ROA*) based on the Du Pont equation:

$$ROE = \frac{\text{Total Assets}}{\text{Common Equity}} \times \frac{\text{Net Income}}{\text{Total Assets}}$$

$$\text{Where: } \frac{\text{Net Income}}{\text{Total Assets}} = ROA$$

$$\frac{\text{Total Assets}}{\text{Common Equity}} = \text{Equity Multiplier}$$

As shown above, the equity multiplier is the inverse of the capital-to-asset ratio and measures the leverage aspect of the company, while *ROA* is the profitability from the asset efficiency perspective. These suggests that *ROE* is a composite measurement that encompasses *ROA* and

the leverage effect of the operation. *ROE* was calculated as the ratio of net income to total equity of the firm, and it was logarithmically transformed to correct for skewness.

Last, firm productivity was measured by revenue per employee (*PRODUCT*). A review of the existing literature (Brown & Dev, 1999; Datta, Guthrie, Wright, Guthrie, & Wright, 2005; Koch & McGrath, 1996) revealed that revenue per employee is a commonly used to indicate firm productivity. Although there are some literature (e.g. Barnett, Payne, & Steiner, 1995; Ehui & Spencer, 1993; Glendining et al., 2009) that utilized total factor productivity (*TFP*) to estimate productivity, *TFP* has its weakness that it does not have a meaningful unit of measurement (Woo & Lee, 2011) and resulting estimates does not lead to insightful implications. *PRODUCT* was measured as the ratio of total sales over total number of employees. It should be noted that *PRODUCT* was log-transformed to correct for skewness.

### **3.2.2 Organizational culture variable**

The major independent variable is the organizational culture measurement. A review of past literature revealed that organizational culture has been generally measured by interviews (MacIntosh & Doherty, 2010; Valencia, Valle, & Jimenez, 2010) for the richness of in-depth information that could be extracted from respondents (e.g. Cavana et al., 2001, Dörnyei, 2007) or survey questionnaires (Baird, Hu, & Reeve, 2011; Bortolotti, Boscari, & Danese, 2015; Hogan & Coote, 2014; Nguyen & Mohamed, 2011; Zheng, Yang, & McLean, 2010) for their ability to collect a large number of responses in a short period of time (Ackroyd & Hughes, 1981). However, interview-based studies suffered from small sample size issued (Brown et al., 2001) and possible researcher bias (Car, 1994). Moreover, questionnaire-based data has major disadvantages in that it is not free from respondent selection issues, non-response bias (Davern, 2013; Weisberg, 2008), and response bias such as question-order (Blankenship, 1942) or social desirability (Nederhof, 1985).

Meanwhile, content analysis is a research method that examines documents and communication artifacts, which could be in a form of texts, pictures, audios or videos. Specifically, text analysis is a technique that examines characteristics specific to text (Stone et al., 1966). Since it processes and analyzes unstructured textual data in a systematic fashion, it is relatively less prone to researcher subjectivity when analyzing the text (Neuman, 1994). This suggests that it is relatively free from the biases associated with researcher intervention.

Furthermore, it is also capable of handling a large quantity of text data. This means that it is also free from the small-sample limitations often found in previous studies. In addition, given the massive availability of firms' official documents for a long period time, text analysis allows for finding longitudinal evidence that organizational culture significantly influences performance. In this regard, text analysis was deemed better suited than interview or questionnaire methods in fulfilling this study's objectives.

Theoretically, the basic notion behind using text analysis to measure organizational culture is that the words organizations used represent cultural value that organizations developed over time (Levinson, 2003), and a firm could reveal its distinctive cultural type through its public communication medium (i.e., disclosures) intentionally and unintentionally (Jiang et al., 2015). This is because a firm's disclosure behavior reflects the underlying environmental influences such as firm-specific characteristics (Haniffa & Cooke, 2002) that affect managers and companies (Adhikari & Tondkar, 1992; Choi & Levich, 1990). Therefore, analyzing documents generated by the firm allows for the inference of firm-specific organizational culture. Indeed, the text analysis approach has recently been applied in various finance and management papers (Antweiler & Murray, 2004; Hoberg & Hanley, 2010; Hoberg & Phillips, 2010; Loughran & McDonald, 2011; Tetlock, 2007; Tetlock et al., 2008) and found reliable for identifying organizational culture (Jiang et al., 2015).

All US public firms are required to file annual reports (Form 10-K/ Form 10-KSB) that contain comprehensive information such as organizational structure, business environment, executive compensation, equity, and an audited financial statement (Yuthas, Rogers, Dillard, 2002). Since a firm's disclosure reduces information asymmetry (Cabezon, 2018), annual reports are considered a means for a firm to communicate with the public (Judd & Tims, 1991; Stanton & Stanton, 2002). Therefore, firms utilize annual reports to proactively construct a specific visibility and meaning of the organization (Hopwood, 1996). Anderson and Imperia (1992) further noted that annual reports communicate the firm's personality and philosophy, conveying a firm-specific image (Neu et al., 1998) as well as values (Jiang et al., 2015). In this respect, annual reports were deemed a reasonable source for firms' disclosure channel for organizational culture, and this study utilized textual data retrieved from annual reports to measure organizational culture values of restaurant firms specified by the CVF (Cameron et al., 2006): collaboration, competition, control, and creation.

To estimate Cameron et al.'s (2006) culture values from annual reports, this study first followed Carretta et al. (2011) and set up a large set of synonyms for keywords that represent respective culture values identified by Fiordelisi and Ricci (2014). Specifically, Fiordelisi and Ricci (2014) took the synonyms of keywords suggested by Cameron et al. (2006) and looked them up in the Harvard IV-4 Psychosocial Dictionary to identify other synonyms. Harvard IV-4 Psychosocial Dictionary is a commonly used source of word classification as its composition is free from arbitrary researcher control therefore alleviating potential issues of researcher subjectivity (Loughran & McDonald, 2011). For instance, words such as “adapt, change, innovative” were identified as synonyms for the word “create,” and therefore a high frequency of those words in the annual reports implies that the company has a adhocracy-oriented culture, words like “capabilities, collective, cooperation” represent that company is collaboration-

Table 3. 1 Bag of words for organizational culture

Value	Bag of words
Collaborate (Clan)	capab*, collectiv*, commit*, competenc*, conflict*, consens*, control*, coordin*, cultur*, decentr*, employ*, empower*, engag*, expectat*, facilitator*, hir*, interpers*, involv*, life*, loyal*, mentor*, monit*, mutual*, norm*, parent*, partic*, procedur*, productiv*, retain*, reten*, skill*, social*,tension*, value* capab*, collectiv*, commit*, competenc*, conflict*, consens*, control*, coordin*, cultur*, decentr*, employ*, empower*, engag*, expectat*, facilitator*, hir*, interpers*, involv*, life*, long-term*, loyal*, mentor*, monit*, mutual*, norm*, parent*, partic*, procedur*, productiv*, retain*, reten*, skill*, social*,tension*, value*
Create (Adhocracy)	adapt*, begin*, chang*, creat*, discontin*, dream*, elabor*, entrepre*, envis*, experim*, fantas*, freedom*, futur*, idea*, init*, innovat*, intellec*, learn*, new*, origin*, pioneer*, predict*, radic*, risk*, start*, thought*, trend*, unafra*, ventur*, vision*
Control (Hierarchy)	boss*, buocr*, cautio*, cohes*, certain*, chief*, collab*, conservat*, cooperat*, detail*, document*, efficien*, error*, fail*, help*, human*, inform*, logic*, method*, outcom*, partner*, people*, predictab*, relation*, qualit*, regular*, solv*, share*, standard*, team*, teamwork*, train*, uniform*, work group* Create
Compete (Market)	achiev*, acqui*, aggress*, agreem*, attack*, budget*, challeng*, charg*, client*, compet*, customer*, deliver*, direct*, driv*,excellen*, expand*, fast*, goal*, growth*, hard*, invest*, market*, mov*, outsourc*, performanc*, position*, pressur*, profit*,rapid*, reputation, result*, revenue*, satisf*, scan*, succes* signal*, speed*, strong, superior, target*, win*

oriented; “boss, efficiency, bureaucrat” were associated with a control-focused culture, and words such as “achieve, performance, excellence” represent competition-oriented culture. Table 3.1 displays the full bag of words that was used to identify organizational culture in this study.

As a next step, this study preprocessed the 10K documents of sample firms, excerpting text data of item 1 (Business), item 1A (Risk factors) of Part 1, and item 7 (Managerial Discussion and Analysis). The preprocess was further conducted to eliminate any stop words, punctuation, and numbers that were considered irrelevant in analyzing. Weiss et al. (2010) noted that the preprocess is a required step in converting natural languages into structured data that could be quantified.

Finally, organizational culture values were estimated for each restaurant firm between 2000 and 2018 by word frequency of synonyms that represent each culture type. Specifically, this study determined the number of times specific synonyms occur in each annual report, using percentages to measure cultural emphasis. That is, specific culture value was calculated as a percentage of the total number of word frequencies over the total number of culture-related words using the following equations:

$$CLAN_{it} = \frac{clan\_words_{it}}{(clan\_words_{it} + adhocracy\_words_{it} + market\_words_{it} + hierarchy\_words_{it})}$$

$$ADHOCRACY_{it} = \frac{adhocracy\_words_{it}}{(clan\_words_{it} + adhocracy\_words_{it} + market\_words_{it} + hierarchy\_words_{it})}$$

$$MARKET_{it} = \frac{market\_words_{it}}{(clan\_words_{it} + adhocracy\_words_{it} + market\_words_{it} + hierarchy\_words_{it})}$$

$$HIERARCHY_{it} = \frac{hierarchy\_words_{it}}{(clan\_words_{it} + adhocracy\_words_{it} + market\_words_{it} + hierarchy\_words_{it})}$$

where:  $clan\_words_{it}$  = total frequencies of words related to clan culture in the annual report for firm  $i$  at time  $t$ ;

$adhocracy\_words_{it}$  = total frequencies of words related to adhocracy culture;

$market\_words_{it}$  = total frequencies of words related to market culture;

$hierarchy\_words_{it}$  = total frequencies of words related to hierarchy.

The organizational culture variable is a ratio of total frequencies of words that represent a specific culture values over total frequencies of words that indicate all culture values. For instance, the estimation of  $CLAN_{it}$  for Starbucks Corp. in 2000 was .12. This means that the synonyms used to capture *clan*-culture represent 12% of total words used to indicate all four organizational culture values for Starbucks in 2000.

### **3.2.3 Service-orientation variable**

Another major independent variable was the service orientation. A similar word frequency technique was used to estimate the service orientation variable. First, this study followed Carretta et al. (2011) and Fiordelisi and Ricci (2014) and set up synonyms for keywords that represent respective service orientations. The keywords for service orientation were identified based on the literature related to assessing service quality in the restaurant industry: SERVQUAL (Parasuraman, Zeithaml, & Berry, 1988), DINESERV (Stevens, Knutson, & Patton, 1995), and other derivative studies (Ha & Jang, 2010; Knutson, Stevens, & Patton, 1996; Lee & Hing, 1995; Lehtinen & Lehtinen, 1991; Marković, Raspor, & Šegarić, 2010; Ryu, Lee, & Kim, 2012; Wall & Berry, 2007). Then, I used Merriam-Webster Dictionary to identify other synonyms for these keywords, which were later used to create a bag of words to identify the service orientation. Appendix 2 displays the full list of bags of words used to identify the service orientation for sample firms.

Then, the study applied these service orientation keywords to 10K documents and calculated total frequencies of each service orientation within the text. Next, this study subtracted total intangible service frequencies from total tangible service frequencies to determine whether a specific firm at a given year is tangible-service oriented (i.e., value is greater than 1), neutral (i.e., value equals 0), or intangible-service oriented (i.e., value is less than 0). The final step involved eliminating neutral values, 0, and converting the remainder into binary variables, representing whether the specific firm at a given year is either tangible-service oriented or intangible-service oriented. It should be noted that 1 represents firms identified as tangible-service oriented; otherwise, 0.

### **3.2.4 Franchising variable**

Another objective of this study was to examine the moderating effect of franchising on the organizational culture-performance relationship. Franchising was defined as a restaurant operation with dual distribution channels in which the company operates company-owned units while it contracts franchisees to operate franchised units. Since franchising is used to finance a firm's future growth (Lillis et al., 1976; Roh & Kwag, 1997) and requires a sunk expenditure invested by a franchisor (Dnes, 1996), this study included restaurant firms with one or more franchised units as franchise restaurants. Furthermore, it should be noted that restaurant firms with licensing operations are also considered as franchise restaurants, because both licensing and franchising are operational modes that leverage intellectual property into new revenue streams, market opportunities, and profit centers (Sherman, 2004) while sharing the risk (Bousquet et al., 1998). In this regard, franchising (*FRANCHISE*) was measured as a binary variable: 1 if the restaurant is franchised or licensed; and 0 otherwise. Appendix 1 displays the list of restaurant firms categorized by the operation mode used in this study.

### **3.2.5 Economic condition variable**

This study included a proxy for economic condition in the estimation. As noted, the restaurant industry is liable to economic vulnerability because the economic condition determines the level of discretionary income available for restaurant spending (Koh *et al.*, 2015). This suggested that economic condition critically influences restaurant performance (Koh, Lee, & Choi, 2013; Lee & Ha, 2012) and therefore included an economic condition variable to test the moderating effect of the economic condition on the organizational culture-performance relationship. In this respect, (*RECESSION*) was measured by a binary variable with 1 indicating the years that were identified as recessionary periods and 0 otherwise. It should be noted that the Hodrick-Prescott filter (Hodrick & Prescott, 1997) was employed to filter out seasonality and the trend of the gross domestic product (GDP) growth timeseries, and a three-standard-deviation threshold was used to identify the extreme low and peak periods. As a result, years 2001 and 2008 were identified as recessionary periods.

### 3.2.6 Control variables

Following the previous studies, this study employed a number of control variables in the models. First, a firm's Tobin's Q was included to control for a firm's intangible values that have a potential influence on restaurant performance (*TOBIN'S Q*). Tobin introduced Tobin's Q (1969) to estimate the intangible assets of firms. It is based on the notion that the long-run equilibrium market value of the firm must be equal to the replacement value of its assets (Hsu & Jang, 2009). In this respect, higher Q represents a higher value of intangible assets of the firm. Since restaurant firms are relatively irrelevant in terms of R&D expenditure (Park & Jang, 2012), intangible values could be referred to as brand equity in the restaurant industry. Indeed, Wang et al. (2009) also considered Tobin's Q as an indicator of brand equity. Considering that brand equity imposes a substantial impact on firm performance (Kim, Kim, & An, 2003), this study employed *TOBIN'S Q* to control for its effect on restaurant performance. *TOBIN'S Q* is defined as a ratio of market value over the replacement value of fixed assets. This study followed Chung and Pruitt (1994) and used the market-to-book ratio as a proxy for Tobin's Q. It was calculated by adding the market value to the book value of preferred stock and total debt and dividing that with the value of total assets. It was logarithmically transformed to correct for skewness.

Second, the optimal capital structure theory suggested that debt leverage effectively monitors company managers since it forces them not to invest in nonvalue-maximizing projects while increasing firm value (Jensen, 1986; Stulz, 1990). Therefore, debt leverage was expected to negatively influence firm performance. Park and Jang (2011) also suggested that firms with a high-leverage increase their performance by not engaging in negative-value opportunities. This implies that there is a positive relationship between debt leverage and firm performance. Consequently, debt leverage (*DEBT*) was included in the model to control for these effects. It was calculated as the logarithmically transformed total liabilities divided by total assets.

A firm's operating cash flow (*CASH FLOW*) was also included in the estimation to control for the effect of a firm's operating performance on financial outcome. It is widely acknowledged that cash flow controls for internal capital and a firm's operating performance. Although both cash flow and retained earnings are used to indicate operation performance, operating cash flow is considered a better measure of operation because earnings include interest expense, special items, and income taxes, while operating cash flow represents the economic benefits solely generated from the operation, unaffected by tax status or capital structure (Barber

& Lyon, 1996). *CASH FLOW* was calculated as logarithmically transformed operating cash flow normalized by total assets.

A firm's capital expenditure (*CAPEX*) was employed to control for the effect on restaurant performance. Capital expenditure indicates firm investment (Smith & Watts, 1992; Lev & Thiagarajan, 1993; Shin & Stulz, 1996), covering not only a firm's investment into plant, property, and equipment but also any asset items such as system and software license items that are conducive to operation and organizational functioning. Considering that the restaurant business is highly fixed-asset intensive (Kim & Jang, 2020) in the form of restaurant stores, and the importance of technology in the restaurant business (Cavusoglu, 2015), this study needs to control for these effects on restaurant performance by including *CAPEX* into the model. *CAPEX* was calculated as a logarithmically transformed capital expenditure over total assets.

A firm's advertising was also incorporated to control for its effect on growth and productivity (*ADVER*). Advertising is considered one of the important determinants in enhancing sales and market presence of product (Hsu & Jang, 2008; Park & Jang, 2011). Empirically, several studies (Abbott, Lawler, & Lingl, 1997; Clarke, 1976; Duffy, 1999; Park & Jang, 2012) found that advertising has a positive effect on sales. Furthermore, advertising also influences restaurant productivity, especially when productivity was measured using total revenue per employee (Kim & Jang, 2019). Since revenue was included in estimating productivity, it is highly correlated with firm sales. Accordingly, this study included advertising expenses to control for the effect of advertising on restaurant performance. *ADVER* was calculated as a logarithmically transformed advertising expense over total assets.

Firm size was also included in the model to control for the size effect. Previous literature (e.g., Geroski & Gugler, 2004; Hall, 1986) provided empirical evidence that firm size is inversely related to firm growth (Park & Jang, 2011a) where larger firms can achieve greater cost efficiency via economies of scale (Hsu & Jang, 2009). Thus, this study included firm size (*UNIT*) in its estimation. *UNIT* was used for growth and profitability models. It was calculated as a logarithmic transformed total number of stores. It should be noted that total asset was used for the productivity model (*ASSET*). The rationale behind using total assets for the productivity model is that total assets may overcontrol the model if used in growth and profitability models. *ASSET* was calculated as logarithmically transformed total assets.

In addition, this study included year dummy variables (*YEAR*) that were included in all models to control for time-specific effects. It should also be noted that all control variables were one year lagged to avoid potential reverse and simultaneous causations (Clemens et al., 2012; Reed; 2015). Table 3.2 displays the description of the variables used in this study.

Table 3. 2 Variable descriptions

Variable	Measurement
<i>GROWTH<sub>it</sub></i>	$= (\text{Sales}_{it} - \text{Sales}_{it-1}) / \text{Sales}_{it-1}$
<i>ROE<sub>it</sub></i>	$= \ln(\text{Net Income}_{it} / \text{Equity}_{it-1})$
<i>PRODUCT<sub>it</sub></i>	$= \ln(\text{Sales}_{it} / \text{Employee}_{it})$
<i>CLAN<sub>it</sub></i>	$= \text{Total Clan-culture Words}_{it} / \text{Total Culture Words}_{it}$
<i>ADHOCRACY<sub>it</sub></i>	$= \text{Total Adhocracy-culture Words}_{it} / \text{Total Culture Words}_{it}$
<i>HIERARCHY<sub>it</sub></i>	$= \text{Total Hierarchy-culture Words}_{it} / \text{Total Culture Words}_{it}$
<i>MARKET<sub>it</sub></i>	$= \text{Total Market-culture Words}_{it} / \text{Total Culture Words}_{it}$
<i>DUMMY_TANGIBLE<sub>it</sub></i>	= 1 if the firm is tangible service-oriented, 0, otherwise.
<i>DUMMY_FRANCHISE<sub>it</sub></i>	= 1 if the firm is franchised, 0, otherwise.
<i>RECESSION<sub>t</sub></i>	= 1 if the year is identified as recessionary periods, 0, otherwise
<i>DUMMY_QSR<sub>it</sub></i>	= 1 if the firm is quick-service restaurant, 0, otherwise.
<i>TOBIN'S Q<sub>it-1</sub></i>	$= \ln\{[(\text{Closing stock price}_{it-1} \times \text{Common share outstanding}_{it-1}) + \text{Total debt}_{it-1} + \text{Preferred stock}_{it-1}] / \text{Total assets}_{it-1}\}$
<i>ADVERTISING<sub>it-1</sub></i>	$= \ln(\text{Advertising expense}_{it-1} / \text{Total assets}_{it-1})$
<i>CASHFLOW<sub>it-1</sub></i>	$= \ln(\text{Operating cashflow}_{it-1} / \text{Total assets}_{it-1})$
<i>CAPEX<sub>it-1</sub></i>	$= \ln(\text{Capital expenditure}_{it-1} / \text{Total assets}_{it-1})$
<i>DEBT<sub>it-1</sub></i>	$= \ln(\text{Total debt}_{it-1} / \text{Total assets}_{it-1})$
<i>ASSET<sub>it-1</sub></i>	$= \ln(\text{Total assets}_{it-1})$
<i>UNIT<sub>it-1</sub></i>	$= \ln(\text{Total units}_{it-1})$
<i>DUMMY_YEAR<sub>t</sub></i>	= Year dummy variables

### 3.3 Models and estimation method

#### 3.3.1 Proposed models

As noted earlier, the main purpose of this study was to examine the effect of organizational culture on restaurant performance. Models from 3.1-a to 3.1-c are proposed for hypothesis 1 to hypothesis 4. Based on the notion that organizational culture determines employee behavior, this study expected that organizational culture significantly influences restaurant performance. To examine the proposed relationships between organizational culture and firm performance, this study proposed the following models:

$$\begin{aligned} SALES\_GROW_{it} = & \beta_1 CULTURE_{it} + \beta_2 CULTURE_{it-1} + \beta_3 CULTURE_{it-2} + \beta_4 DUMMY\_TANGIBLE_{it-1} \\ & + \beta_4 DUMMY\_FRANCHISE_{it-1} + \beta_5 DUMMY\_QSR_i + \beta_6 TOBIN'S Q_{it-1} \\ & + \beta_7 ADVERTISING_{it-1} + \beta_8 CASH FLOW_{it-1} + \beta_9 CAPEX_{it-1} + \beta_{10} UNIT_{it-1} \\ & + \sum DUMMY\_YEAR_t \end{aligned} \quad \text{Model 3.1-a}$$

$$\begin{aligned} ROE_{it} = & \beta_1 CULTURE_{it} + \beta_2 CULTURE_{it-1} + \beta_3 CULTURE_{it-2} + \beta_4 DUMMY\_TANGIBLE_{it-1} \\ & + \beta_4 DUMMY\_FRANCHISE_{it-1} + \beta_5 DUMMY\_QSR_i + \beta_6 DEBT_{it-1} \\ & + \beta_7 CASH FLOW_{it-1} + \beta_8 TOBIN'S Q_{it-1} + \beta_9 UNIT_{it-1} \\ & + \sum DUMMY\_YEAR_t \end{aligned} \quad \text{Model 3.1-b}$$

$$\begin{aligned} PRODUCT_{it} = & \beta_1 CULTURE_{it} + \beta_2 CULTURE_{it-1} + \beta_3 CULTURE_{it-2} + \beta_4 DUMMY\_TANGIBLE_{it-1} \\ & + \beta_4 DUMMY\_FRANCHISE_{it-1} + \beta_5 DUMMY\_QSR_i + \beta_6 ADVERTISING_{it-1} \\ & + \beta_7 CAPEX_{it-1} + \beta_8 ASSET_{it-1} + \sum DUMMY\_YEAR_t \end{aligned} \quad \text{Model 3.1-c}$$

where  $SALES\_GROW_{it}$  represents firm growth measured by sales in year  $t$ ;  $ROE_{it}$  is the profitability indicator measured by return on equity in year  $t$ ;  $PRODUCT_{it}$  indicates the productivity measured by sales revenue divided by the total number of employees;  $CULTURE_{it}$  is the organizational culture variable that is differentiated by the culture values

(i.e.,  $CLAN_{it}$ ,  $ADHOCRACY_{it}$ ,  $HIERARCHY_{it}$ , and  $MARKET_{it}$ );  $CULTURE_{it-1}$ , and  $CULTURE_{it-2}$ , are the organizational culture variable of year t and t-1, respectively, used to examine the long-term effect of organizational culture;  $DUMMY\_TANGIBLE_{it-1}$ , is the binary variable measured by the tangibility score where 1 indicates the firm is tangible-service oriented, 0, otherwise;  $DUMMY\_FRANCHISE_{it-1}$ , is the binary variable for franchising where 1 indicates the firm is franchised, 0, otherwise;  $DUMMY\_QSR_{it-1}$ , is the binary variable that takes the value of 1 for quick-service restaurants and 0 for full-service restaurants; and  $DUMMY\_YEAR_t$  is the year dummy variable employed to control for time effect in all models. A detailed description of the variables with measurement methods is in Table 2.

Another objective of this study was to examine the moderating effect of service-orientation on the organizational culture-performance relationship. Models from 3.2-a to 3.2-c are proposed to examine hypothesis 3. Based on the notion that tangible service orientation is aligned with clan and adhocracy cultures, this study expected that tangible service orientation positively moderates the clan-performance and the adhocracy-performance relationships, while negatively moderating the hierarchy-performance and the market-performance relationships. It should be noted that the main focus of the proposed models is the coefficient of the  $CULTURE\_DUMMY\_TANGIBLE$  interaction,  $\beta_7$ ,  $\beta_8$ , and  $\beta_9$ ;

$$\begin{aligned}
 SALES\_GROW_{it} = & \beta_1 CULTURE_{it} + \beta_2 CULTURE_{it-1} + \beta_3 CULTURE_{it-2} + \beta_4 DUMMY\_TANGIBLE_{it} \\
 & + \beta_5 DUMMY\_TANGIBLE_{it-1} + \beta_6 DUMMY\_TANGIBLE_{it-2} \\
 & + \beta_7 (CULTURE_{it} \times DUMMY\_TANGIBLE_{it}) \\
 & + \beta_8 (CULTURE_{it-1} \times DUMMY\_TANGIBLE_{it-1}) \\
 & + \beta_9 (CULTURE_{it-2} \times DUMMY\_TANGIBLE_{it-2}) + X\beta \qquad \text{Model 3.2-a}
 \end{aligned}$$

$$\begin{aligned}
 ROE_{it} = & \beta_1 CULTURE_{it} + \beta_2 CULTURE_{it-1} + \beta_3 CULTURE_{it-2} + \beta_4 DUMMY\_TANGIBLE_{it} \\
 & + \beta_5 DUMMY\_TANGIBLE_{it-1} + \beta_6 DUMMY\_TANGIBLE_{it-2} \\
 & + \beta_7 (CULTURE_{it} \times DUMMY\_TANGIBLE_{it})
 \end{aligned}$$

$$\begin{aligned}
& + \beta_8(CULTURE_{it-1} \times DUMMY\_TANGIBLE_{it-1}) \\
& + \beta_9(CULTURE_{it-2} \times DUMMY\_TANGIBLE_{it-2}) + X\beta \qquad \text{Model 3.2-b}
\end{aligned}$$

$$\begin{aligned}
PRODUCT_{it} = & \beta_1CULTURE_{it} + \beta_2CULTURE_{it-1} + \beta_3CULTURE_{it-2} + \beta_4DUMMY\_TANGIBLE_{it} \\
& + \beta_5DUMMY\_TANGIBLE_{it-1} + \beta_6DUMMY\_TANGIBLE_{it-2} \\
& + \beta_7(CULTURE_{it} \times DUMMY\_TANGIBLE_{it}) \\
& + \beta_8(CULTURE_{it-1} \times DUMMY\_TANGIBLE_{it-1}) \\
& + \beta_9(CULTURE_{it-2} \times DUMMY\_TANGIBLE_{it-2}) + X\beta \qquad \text{Model 3.2-c}
\end{aligned}$$

where,  $CULTURE_{it} \times DUMMY\_TANGIBLE_{it}$  is the interaction between the organizational culture and the service orientation of the firm operation;  $CULTURE_{it-1} \times DUMMY\_TANGIBLE_{it-1}$  and  $CULTURE_{it-2} \times DUMMY\_TANGIBLE_{it-2}$  are the interaction effect used to estimate the long-term effect of the moderating role of the service-orientation; X is the set of the control variables. A detailed description of the control variables is in Table 2.

This study also examined the moderating effect of franchising on the organizational culture-performance relationship. Models from 3.3-a to 3.3-c pertain to hypothesis 4. Based on the notion that franchising induces economic and operational benefits to restaurant firms, this study expected that franchising positively moderates the relationship between the organizational culture and restaurant performance. It should be noted that the main focus of the proposed models is the coefficient of the  $CULTURE-DUMMY\_FRANCHISE$  interaction,  $\beta_7$ ,  $\beta_8$ , and  $\beta_9$ ;

$$\begin{aligned}
SALES\_GROW_{it} = & \beta_1CULTURE_{it} + \beta_2CULTURE_{it-1} + \beta_3CULTURE_{it-2} + \beta_4DUMMY\_FRANCHISE_{it} \\
& + \beta_5DUMMY\_FRANCHISE_{it-1} + \beta_6DUMMY\_FRANCHISE_{it-2} \\
& + \beta_7(CULTURE_{it} \times DUMMY\_FRANCHISE_{it}) \\
& + \beta_8(CULTURE_{it-1} \times DUMMY\_FRANCHISE_{it-1})
\end{aligned}$$

$$+ \beta_9(CULTURE_{it-2} \times DUMMY\_FRANCHISE_{it-2}) + X\beta \quad \text{Model 3.3-a}$$

$$ROE_{it} = \beta_1 CULTURE_{it} + \beta_2 CULTURE_{it-1} + \beta_3 CULTURE_{it-2} + \beta_4 DUMMY\_FRANCHISE_{it}$$

$$+ \beta_5 DUMMY\_FRANCHISE_{it-1} + \beta_6 DUMMY\_FRANCHISE_{it-2}$$

$$+ \beta_7(CULTURE_{it} \times DUMMY\_FRANCHISE_{it})$$

$$+ \beta_8(CULTURE_{it-1} \times DUMMY\_FRANCHISE_{it-1})$$

$$+ \beta_9(CULTURE_{it-2} \times DUMMY\_FRANCHISE_{it-2}) + X\beta \quad \text{Model 3.3-b}$$

$$PRODUCT_{it} = \beta_1 CULTURE_{it} + \beta_2 CULTURE_{it-1} + \beta_3 CULTURE_{it-2} + \beta_4 DUMMY\_FRANCHISE_{it}$$

$$+ \beta_5 DUMMY\_FRANCHISE_{it-1} + \beta_6 DUMMY\_FRANCHISE_{it-2}$$

$$+ \beta_7(CULTURE_{it} \times DUMMY\_FRANCHISE_{it})$$

$$+ \beta_8(CULTURE_{it-1} \times DUMMY\_FRANCHISE_{it-1})$$

$$+ \beta_9(CULTURE_{it-2} \times DUMMY\_FRANCHISE_{it-2}) + X\beta \quad \text{Model 3.3-c}$$

where,  $CULTURE_{it} \times DUMMY\_FRANCHISE_{it}$  is the interaction between the organizational culture and the service orientation of the firm operation;  $CULTURE_{it-1} \times DUMMY\_FRANCHISE_{it-1}$  and  $CULTURE_{it-2} \times DUMMY\_FRANCHISE_{it-2}$  are the interaction effect used to estimate the long-term effect of the moderating role of franchising;  $X$  is the set of the control variables. A detailed description of the control variables with measurement methods is in Table 2.

Furthermore, this study intended to test the moderating effect of economic condition on the organizational culture-performance relationship. Models from 3.4-a to 3.4-c examined hypothesis 5. Based on the notion that recession imposes significant constraints on restaurant performance, this study expected that recession negatively moderates the organizational culture-performance relationship, while positively moderating the culture-productivity relationship. It should be noted that the main focus of the proposed models is the coefficient of the  $CULTURE-RECESSION$  interaction,  $\beta_7$ ,  $\beta_8$ , and  $\beta_9$ ;

$$\begin{aligned}
SALES\_GROW_{it} = & \beta_1 CULTURE_{it} + \beta_2 CULTURE_{it-1} + \beta_3 CULTURE_{it-2} + \beta_4 RECESSIION_t \\
& + \beta_5 RECESSIION_{t-1} + \beta_6 RECESSIION_{t-2} + \beta_7 (CULTURE_t \times RECESSIION_t) \\
& + \beta_8 (CULTURE_{t-1} \times RECESSIION_{t-1}) + \beta_9 (CULTURE_{t-2} \times RECESSIION_{t-2}) + X\beta
\end{aligned}$$

Model 3.4-a

$$\begin{aligned}
ROE_{it} = & \beta_1 CULTURE_{it} + \beta_2 CULTURE_{it-1} + \beta_3 CULTURE_{it-2} + \beta_4 RECESSIION_t \\
& + \beta_5 RECESSIION_{t-1} + \beta_6 RECESSIION_{t-2} + \beta_7 (CULTURE_t \times RECESSIION_t) \\
& + \beta_8 (CULTURE_{t-1} \times RECESSIION_{t-1}) + \beta_9 (CULTURE_{t-2} \times RECESSIION_{t-2}) + X\beta
\end{aligned}$$

Model 3.4-b

$$\begin{aligned}
PRODUCT_{it} = & \beta_1 CULTURE_{it} + \beta_2 CULTURE_{it-1} + \beta_3 CULTURE_{it-2} + \beta_4 RECESSIION_t \\
& + \beta_5 RECESSIION_{t-1} + \beta_6 RECESSIION_{t-2} + \beta_7 (CULTURE_t \times RECESSIION_t) \\
& + \beta_8 (CULTURE_{t-1} \times RECESSIION_{t-1}) + \beta_9 (CULTURE_{t-2} \times RECESSIION_{t-2}) + X\beta
\end{aligned}$$

Model 3.4-c

where,  $RECESSIION_t$  is the binary variable that 1 indicates that the year was identified as recessionary periods, and 0, otherwise;  $CULTURE_{it} \times RECESSIION_t$  is the interaction between the organizational culture and the economic condition;  $CULTURE_{it-1} \times RECESSIION_{t-1}$  and  $CULTURE_{it-2} \times RECESSIION_{t-2}$  are the interaction effects used to estimate the long-term effect of the economic condition; X is the set of the control variables. A detailed description of the control variables with measurement methods is in Table 2.

### 3.3.2 Estimation method

Several econometric techniques were performed for data analysis in this study. First, this study conducted the modified Wald statistics for heteroskedasticity. Baum (2001) noted that the modified Wald test should be employed to test for a groupwise heteroskedasticity in a panel setting using residuals. That is, the error variance may differ across units even though

homoscedastic within cross-sectional units. The null hypothesis of the modified Wald test is as follows:

$$H_0: \sigma_i^2 = \sigma_i \text{ for } i = 1 \dots N_g$$

where,  $N_g$  is the number of cross-sectional units

Let  $\hat{\sigma}_i^2 = T_i^{-1} \sum_{t=1}^{T_i} (e_{it}^2 - \hat{\sigma}_i^2)^2$  is the estimator of the  $i$ th cross-sectional units error variance, then the estimated variance of  $\hat{\sigma}_i^2$  is:

$$V_i = T_i^{-1} (T_i - 1)^{-1} \sum_{t=1}^{T_i} (e_{it}^2 - \hat{\sigma}_i^2)^2$$

where,  $V_i$  is the estimated variance of  $\hat{\sigma}_i^2$ ,  $T_i$  is the number of observations of  $i$ th cross-sectional unit,  $T_i - 1$  is the degree of freedom.

The modified Wald test is defined as:

$$W = \sum_{i=1}^{N_g} \frac{(\sigma_i^2 - \hat{\sigma}_i^2)^2}{V_i} \sim \chi^2 [N_g]$$

Baum (2001) noted that the modified Wald statistic is applicable even when the normality assumption of errors is violated. The significant Wald statistic confirms the presence of heteroskedasticity in the estimation. Since the presence of heteroskedasticity could seriously impair the standard error of our estimates, the estimated standard error becomes invalid (Greene, 2006), in which case the robust-standard error was used to obtain heteroskedasticity-robust estimators.

Next, this study conducted the Breusch-Pagan Lagrange multiplier (Breusch & Pagan, 1980) (LM) test of random effect. Given the panel context, it is imperative to confirm that omitted variable bias is minimized, because it creates an issue with correlated error terms when OLS is employed (Kukalis, 2010). Therefore, the LM test of random effect was employed to select the most appropriate models between ordinary least square (OLS) or random-effect (RE) models. The LM test hypothesizes the following:

$$H_0: \text{var}(u_i) = \sigma_i^2 = 0$$

As shown above, the LM test hypothesizes that if the variances across panel is zero that there is no panel effect. If the test turned out insignificant, it suggests that there is no evidence of significant differences in error variances across panel; thus, a simple OLS is suitable over RE for the estimation, *vice versa*.

Finally, this study employed the Hausman Specification test (Hausman, 1978) to determine the specific analytic method between fixed-effect (FE) and RE estimations for each analysis model. FE estimation is widely used under panel context because it captures time invariant effect (Greene, 2006; Wooldridge, 2009). Consider the linear unobserved effects model as follows:

$$Y_{it} = X_{it}\beta + a_i + u_{it}, t = 1, 2, \dots, T \text{ and } i = 1, \dots, N \quad (\text{Equation 3.1})$$

$$\bar{Y}_i = \bar{X}_i\beta + \bar{a}_i + \bar{u}_{it} \quad (\text{Equation 3.2})$$

where,  $\bar{Y}_i = T^{-1} \sum_{t=1}^T \bar{Y}_{it}$ , and  $a_i$  is unobserved time-invariant effect. Unlike RE in which  $a_i$  is independent of  $X_{it}$ , the FE model allows  $a_i$  to be correlated with  $X_{it}$ .

If Equation 3.2 is subtracted from Equation 3.1, the model becomes:

$$Y_{it} - \bar{Y}_i = (X_{it} - \bar{X}_i)\beta + (a_i - \bar{a}_i) + (u_{it} - \bar{u}_{it})$$

Since  $a_i$  is constant,  $a_i = \bar{a}_i$ , therefore it is eliminated as follows:

$$Y_{it} - \bar{Y}_i = (X_{it} - \bar{X}_i)\beta + (u_{it} - \bar{u}_{it})$$

where,  $Y_{it} - \bar{Y}_i$  is the time demeaned Y.

As demonstrated above, the FE estimator is based on a time-demeaned variable (Wooldridge, 2009). Gujarati and Porter (2009) showed that the slope coefficient is invariant over time and across individuals. Since the dummy variable affects only the intercept, FE incorporates the dummy variable into the model to capture the time effect and the individual effect into the model and assumes that  $a_i$  is a part of independent variables:

$$Cov(X_{it}, a_i) \neq 0, t = 1, 2, \dots, T; i = 1, 2, \dots, k$$

Meanwhile, the RE model incorporates unobserved effect to minimize the omitted variable bias. Unobserved effect  $a_i$  is assumed to be uncorrelated with independent variables (Wooldridge, 2009).

$$Cov(X_{it}, a_{it}) = 0, t = 1, 2, \dots, T; i = 1, 2, \dots, k$$

Due to the difference in the assumptions regarding the error term (Pintea et al., 2014), it becomes important to identify a relatively more suitable estimation given the specific data. Since the Hausman test (Hausman, 1978) examines the covariance of unobserved effect  $a_{it}$  with regressor  $X_{it}$  (Baltagi, 2008), the result of the Hausman test objectively determines a more appropriate estimation.

Furthermore, it is important to note that two-way panel estimation was employed for the analysis, because the panel data is consisted of both time and individual firm components (Wooldridge, 2009). That is, the estimation model incorporates both time and individual effect (Baltagi, 2008) in order to avoid any omitted variable bias caused by containing only time or individual effect (Greene, 2006; Wooldridge, 2009). In this regard, this study employed year dummy variables to account for an unobserved time-fixed effect in the estimation.

## CHAPTER 4. RESULT

### 4.1 Descriptive statistics

The data included 112 restaurant firms with 784 observations. The culture-related words represent approximately 3.44% of the total text in the item 1 (Business), item 1A (Risk Factors) of Part 1, and item 7 (Managerial Discussion and Analysis) of 10K (hereafter document). Of these, market culture was the largest culture type with 31.42%, followed by clan culture with 30.34%, adhocracy culture (21.9%), and hierarchy culture (16.34%). This suggests that restaurant firms were largely driven by market and clan cultures over the sample period. Among 112 firms, 90 firms were intangible-service focused while 70 firms were tangible-service oriented with duplication allowed. Thus, restaurant firms were slightly more tangible service focused. The average clan culture was slightly larger for tangible service-oriented firms (31.30%) than intangible service-oriented firms (29.64%), while market culture was on average larger for intangible service-oriented firms (31.64%) than tangible service-oriented firms (31.16%). However, the statistical mean difference was significant for only the clan culture ( $t = -3.790$ ,  $p < 0.001$ ) and for hierarchy culture ( $t = 3.759$ ,  $p < 0.001$ ). This means that organizations with tangible service orientation are different from firms with intangible service orientation in terms of clan and hierarchy cultures.

Table 4. 1 Mean values of organizational culture by service domain

		Overall 10K	Culture Only	Service Orientation		
				Tangible	Intangible	T-test
Clan	Mean	1.049	30.339	31.303	29.664	$t = -3.790$
	St. Dev.	0.342	7.117	7.879	6.486	$p < 0.001$
Adhocracy	Mean	0.743	21.900	21.840	21.932	$t = 0.314$
	St. Dev.	0.187	4.877	5.606	4.289	$p > 0.1$
Hierarchy	Mean	0.557	16.338	15.697	16.763	$t = 3.759$
	St. Dev.	0.177	4.678	5.063	4.340	$p < 0.001$
Market	Mean	1.086	31.422	31.160	31.640	$t = 1.085$
	St. Dev.	0.356	7.225	8.136	6.554	$p > 0.1$

In terms of operation mode, the average clan value was higher for franchise firms (23.82%) than nonfranchise firms (21.84%), while average adhocracy value was slightly higher for nonfranchise firms (29.51%) than franchise firms (27.12%). This suggested that while franchise firms are externally focused to expedite growth, they try to offset their weaknesses in the internal unity by focusing on clan culture. However, lower mean value of adhocracy culture among franchise restaurant firms further implied that franchise firms are less innovative than nonfranchise firms. This means that since franchise restaurant firms are generally larger in size than nonfranchise firms, it is more difficult for franchise restaurant firms to engage in innovation and that innovation and firm size are inversely related.

Furthermore, hierarchy culture turned out higher for nonfranchise firms (10.52%) than franchise firms (9.15%). This shows that nonfranchise restaurant firms focused on reinforcing internal compliance and efficient process of operation than franchise firms. This may partly due to the principal-agent issue between firm and unit managers. Unlike franchisees, unit managers are not owner-managers. Therefore, they have an incentive to shirk from their duties. In this respect, nonfranchise firms need to call attention to strict compliance to rules and regulations, substantially reinforcing hierarchy culture among their employees. Table 4.2 shows the mean values of organizational cultures categorized by operational mode.

Table 4. 2 Mean values of organizational culture by operation mode

		Overall	Operation		T-test
			Franchise	Non-franchise	
Clan	Mean	23.259	23.824	21.842	$t = 6.289$
	St. Dev.	5.756	5.766	5.487	$p < 0.001$
Adhocracy	Mean	27.802	27.121	29.508	$t = 7.386$
	St. Dev.	5.930	5.356	6.888	$p < 0.001$
Hierarchy	Mean	9.541	9.150	10.521	$t = 8.301$
	St. Dev.	3.045	2.846	3.300	$p < 0.001$
Market	Mean	39.399	39.905	38.129	$t = 4.924$
	St. Dev.	6.561	6.417	6.751	$p < 0.001$

Table 4.3 shows mean values of organizational cultures over the sample period. It indicates that all culture values (as a percentage of total text) increased over time. This suggested that restaurant firms were paying more attention to organizational culture and displaying more in official documents. Interestingly, adhocracy culture and market culture showed greater growth (19.32% for adhocracy and 18.19% for market cultures) from 2005 to 2009. Considering that 2008 was widely known as a period of great recession, this partly suggests that restaurant firms in general tend to break an economic deadlock by focusing on the market and promoting innovation. While growth in adhocracy and market cultures stagnated afterward, hierarchy culture showed strong growth (14.41%) after the recovery period (2010—2014). This might further imply that restaurant firms focus on hierarchy culture during economic boom to reform the organization, which had been bustling from recovery.

Table 4. 3 Mean values of organizational culture by sample period

		Time Period			
		2000 – 2004	2005 – 2009	2010 – 2014	2015 – 2018
Clan	Mean	0.947	1.038	1.099	1.203
	<i>Growth (%)</i>	<i>9.609</i>	<i>5.877</i>	<i>9.463</i>	
Adhocracy	Mean	0.642	0.766	0.792	0.847
	<i>Growth (%)</i>	<i>19.315</i>	<i>3.394</i>	<i>6.944</i>	
Hierarchy	Mean	0.492	0.547	0.583	0.667
	<i>Growth (%)</i>	<i>11.179</i>	<i>6.581</i>	<i>14.408</i>	
Market	Mean	0.940	1.111	1.194	1.207
	<i>Growth (%)</i>	<i>18.191</i>	<i>7.471</i>	<i>1.089</i>	

The time series trend of each organizational culture over time is more visible in Figure 4. Figure 4.1 indicates that all four culture types increased over time. Interestingly, clan culture dropped drastically prior to the 2008 recession and increased afterward, while market culture maintained a consistent increase throughout the period. This suggested that the value of teamwork and collaboration depreciated during the recession; rather, the restaurant firms focused more on providing the quality of products and services demanded by the market by reinforcing the market culture.

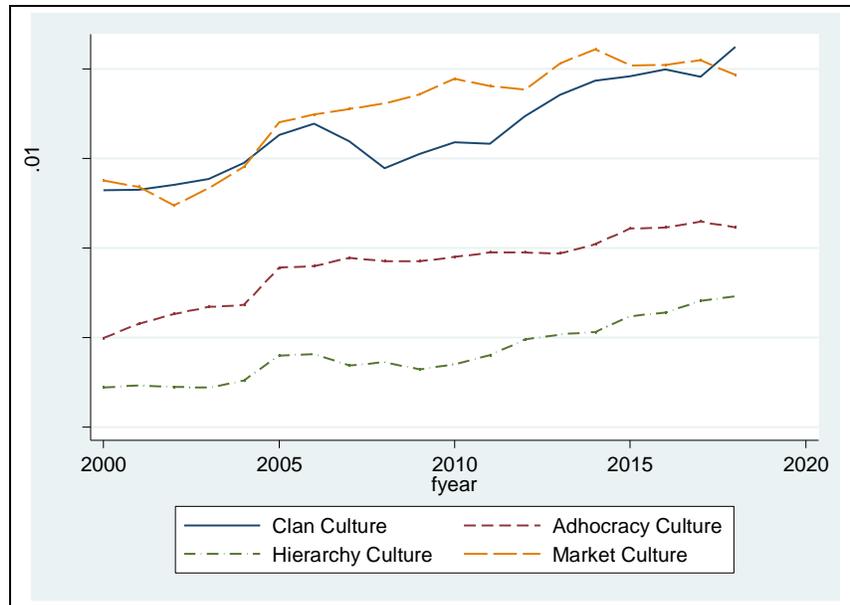


Figure 4. 1 Organizational culture (as a percentage of total text) over time

Table 4.4 shows the mean values of organizational cultures (as percentage of total culture-related text) over the sample period. This shows how organizational culture concentration changed over time. Consistent with other tables, it indicates that organizational culture is substantially composed of clan and market cultures, and less dependent on hierarchy culture. Interestingly, it shows that clan and market cultures have the opposite pattern. Clan culture

Table 4. 4 Mean values of organizational culture by sample period

		Time Period			
		2000 – 2004	2005 – 2009	2010 – 2014	2015 – 2018
Clan	Mean	31.126	29.577	29.776	30.556
	<i>Growth (%)</i>		- 4.977	0.673	2.620
Adhocracy	Mean	21.542	22.549	21.855	21.731
	<i>Growth (%)</i>		4.675	- 3.078	- 0.567
Hierarchy	Mean	16.415	16.002	15.992	17.067
	<i>Growth (%)</i>		- 2.516	- 0.062	6.722
Market	Mean	30.917	31.872	32.377	30.646
	<i>Growth (%)</i>		3.089	1.584	- 5.346

decreased from 2000 to 2014, while market culture increased until 2014. This is more visible from Figure 4.2. Moreover, it further displays that adhocracy and market cultures increased during the recession and decreased after the recession. This implies that restaurant firms are more externally focused to overcome the economic crisis and converged to internal process once the environmental challenge is over. This further suggests that culture is dynamic and should be responsive to environmental conditions rather than maintain stability over time.

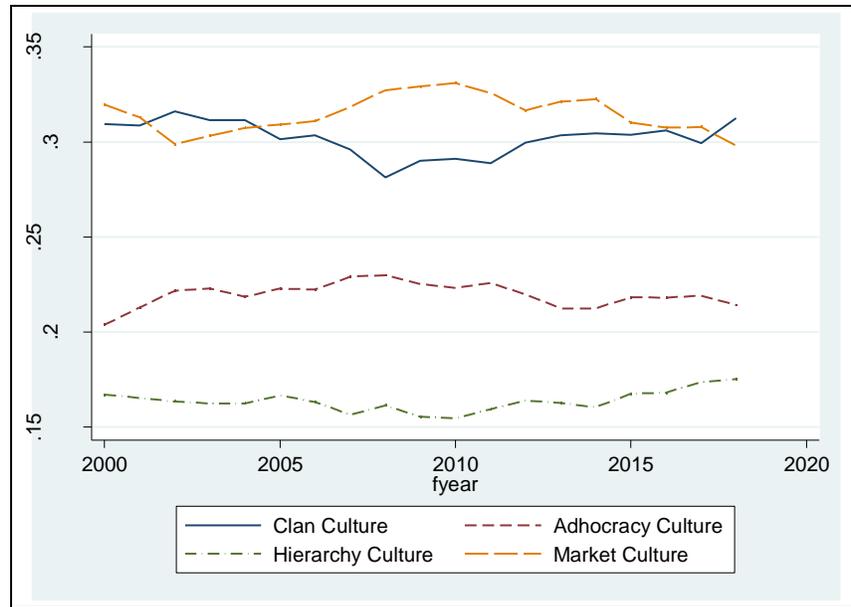


Figure 4. 2 Organizational culture (as a percentage of culture-related text) over time

Table 4.5 displays mean values of the dependent variables used in this study. It should be noted that since this study was unable to group sample firms by organizational culture, all the mean values were compared within the specific culture values. The difference in mean sales growth between high and low cultures is greatest when restaurant firms had high market culture. This is very plausible since the focal point of the market culture was to provide quality products and services at a competitive price (Quinn & Kimberly, 1984). Interestingly, clan culture also shows a greater difference in mean sales growth (between high and low clan culture). This suggests that organizations, which provide a flexible working environment that promotes individual development, collaboration, and communication, could also achieve better growth.

In terms of firm profitability, it is evident that ROE is greater when restaurant firms have higher firm growth. This is consistent with the notion that firm growth and profitability are

negatively related (Jang & Park, 2011). Contrary to theoretical discussion, ROE is negative and lower when the organization focuses on a high level of internal process (i.e., clan and hierarchy cultures). Considering that firm profitability is substantially influenced by other factors such as size, leverage, franchising, and the like, this suggests that these factors should be controlled in the main analysis.

It is also evident that, within cultures that represent internal focus, firm productivity is greater when firms have higher clan culture, and lower when firms have higher hierarchy culture. This implies that higher productivity could be achieved when restaurant firms have a flexible structure rather than a controlled structure. This pattern is also evident at the high level of culture comparison. The productivity of high clan and adhocracy culture is greater than the productivity of high hierarchy and market cultures. These imply that since productivity is an outcome of internal process, it is the best for organizations to focus on internal process to enhance productivity.

Table 4. 5 Mean values of main dependent variables by organizational culture

	Clan		Adhocracy		Hierarchy		Market	
	High	Low	High	Low	High	Low	High	Low
Sales Growth (%)	10.197	4.691	10.466	6.257	11.300	8.781	12.410	5.524
ROE	- 0.022	0.059	0.022	0.113	- 0.034	0.111	0.016	0.040
Productivity (in USD)	71,126	50,519	71,310	51,849	45,935	78,833	53,645	49,400

\* Sales Growth =  $(\text{Sales}_{it} - \text{Sales}_{it-1}) / \text{Sales}_{it-1}$ ; ROE =  $\ln(\text{Net Income}_{it} / \text{Equity}_{it-1})$ ;  
Productivity =  $\ln(\text{Sales}_{it} / \text{Employee}_{it})$

Table 4.6 shows mean values of main dependent variables categorized by the main moderators used in this study. It indicates that the sales growth of intangible service-oriented firms is slightly higher than the sales growth of tangible service-oriented firms. However, t-test results ( $t = 0.115, p > 0.1$ ) on the difference in mean between the two groups were insignificant, suggesting that sales growth was not statistically different between tangible and intangible service-oriented firms. This is plausible since service orientation represents the focus of internal

process by which restaurant firms achieve greater firm value (Lytle & Timmerman, 2006); therefore, it should not significantly influence firm growth. Meanwhile, ROE is statistically different between the two groups ( $t = 2.114, p < 0.05$ ) where tangible service-oriented firms have a higher ROE than intangible service-oriented firms. This suggests the notion that since intangible service orientation involves a service delivery process that is highly labor intensive, its profitability is inherently lower than firms with a tangible service orientation. The productivity of the intangible service orientation group is higher than the productivity of the tangible service orientation group. This implies that reinforcing intangible service substantially influences employees to perform more efficiently during the process of service delivery. However, t-test results ( $t = 0.973, p > 0.1$ ) suggest that there is no significant difference in productivity between the two groups.

Next, this study checked the mean difference between recession and peak period. The sales growth was higher during the peak than the recession period. The t-test results ( $t = 1.665, p < 0.1$ ) confirm that the difference is statistically significant. This is consistent with our expectation, since restaurant growth is substantially subject to external economic conditions (Chen, 2010; Jiang & Dalbor, 2017; Koh, Lee, & Choi, 2013). Similarly, ROE is also higher during the peak period than the recession, suggesting that restaurants could enjoy profitability gains through better economic condition. The t-test results ( $t = 1.663, p < 0.1$ ) confirm that the difference is statistically significant. Meanwhile, productivity appears to not be substantially different between the two groups, with statistically insignificant ( $t = 0.166, p > 0.1$ ) results.

Last, nonfranchise restaurant firms turn out to have statistically significant higher sales growth than franchise restaurants ( $t = 1.805, p < 0.1$ ). This study expected that this may be partly due to the size effect. Since nonfranchise firms are smaller than franchise firms, their sales growth could be greater than franchise firms. Meanwhile, the franchise group appears to outperform nonfranchise firms in terms of *ROE* and productivity. This could be attributed the economic and operational benefits that franchising provide to restaurant firms. Since franchising enables restaurant firms to expedite growth with fewer resources (Hsu & Jang, 2009; Seo & Sharma, 2018), thereby reducing cost (Lafontaine & Kaufmann, 1994) and stabilizes cash flow (Koh et al., 2015), the profitability and productivity of franchise restaurants are higher than nonfranchise restaurants.

Table 4. 6 Mean values of main dependent variables by operation mode

	Service orientation		Economic condition		Operation mode	
	Tangible	Intangible	Recession	Peak	Franchised	Non-franchised
Sales Growth (%)	9.086	9.223	6.967	10.471	8.575	11.145
<i>ROE</i>	0.082	- 0.015	- 0.061	0.072	0.054	- 0.019
Productivity (in USD)	58,027	62,719	52,035	52,910	64,908	45,302

\* Sales Growth =  $(Sales_{it} - Sales_{it-1}) / Sales_{it-1}$ ; *ROE* =  $\ln(\text{Net Income}_{it} / \text{Equity}_{it-1})$ ;  
 Productivity =  $\ln(\text{Sales}_{it} / \text{Employee}_{it})$

## 4.2 Organizational culture and restaurant performance

### 4.2.1 Clan culture and restaurant performance

The objective of this study was to examine the relationship between organizational culture and restaurant performance. Table 4.7 displays the empirical result of examining clan culture's effect on restaurant profitability (Panel A) and productivity (Panel B), respectively. Consistent with the hypothesis (H1-1), the results show that clan culture negatively influences restaurant profitability ( $\beta_{it-1} = - 2.245, p < 0.05$ ). Specifically, the results indicate that while the effect of clan culture is immediately insignificant ( $\beta_{it} = 1.347, p > 0.1$ ), clan culture has a year-lagged negative effect on restaurant profitability. This study suspects that insignificant immediate effect may be partly due to a potential positive effect incurred by clan culture that offsets the immediate negative effect. This result implies that additional costs associated with clan culture, such as individual development, training, fluent communication, and commitment is substantially high enough to exacerbate the cost structure of restaurant firms and that it is costly to maintain incumbent employee retention in the restaurant industry. However, it should be noted that the negative effect exists only one year after clan culture is enhanced, and it disappears afterward.

Panel B of Table 4.7 shows the result of testing our hypothesis (H1-2), which concerns the relationship between clan culture and restaurant productivity. Consistent with our hypothesis, the result indicates that clan culture has a positive effect impact on restaurant productivity ( $\beta_{it} =$

0.644,  $p < 0.01$ ). Specifically, the result shows that a 1% increase in the clan culture results in a 0.64% increase in restaurant productivity. This result suggests that the benefit of executing an individual development program, flexible communication, and collaboration could be realized immediately in the form of restaurant productivity. This further means that, unlike the lagged effect initially expected, clan culture has an immediate effect in terms of restaurant productivity. Meanwhile, it should be noted that the positive effect appears only contemporaneously and disappears after one year. This further implies that clan culture could be a short-term answer to enhancing productivity and that restaurant firms may need to combine clan culture with other organizational initiatives to continuously increase productivity.

Table 4. 7 Effect of clan culture on restaurant performance

<i>Dependent Variable</i>	Panel A. $ROE_{it}$	Panel B. $PRODUCT_{it}$
$CLAN_{it}$	1.347	0.644***
$CLAN_{it-1}$	- 2.245**	- 0.023
$CLAN_{it-2}$	0.678	0.047
$DUMMY\_TANGIBLE_{it-1}$	0.106	0.010
$DUMMY\_FRANCHISE_{it-1}$	- 0.235	0.005
$DUMMY\_QSR_i$	0.010	0.157
$DEBT_{it-1}$	0.192*****	
$CASHFLOW_{it-1}$	0.348**	
$TOBIN'SQ_{it-1}$	0.252	
$UNIT_{it-1}$	0.072	
$ADVERTISING_{it-1}$		- 0.022
$CAPEX_{it-1}$		- 0.051**
$ASSET_{it-1}$		0.044*
$N(GROUP)$	558 (99)	784 (112)
$R^2$	0.190	0.260
$HAUSMAN\ TEST(\chi^2)$	21.590	25.200

1) The result of year dummies is not present in the table

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , \*\*\*\*\*  $p < 0.001$

#### 4.2.2 Adhocracy culture and restaurant performance

Table 4.8 displays the empirical result of examining adhocracy culture's effect on restaurant growth (Panel C) and profitability (Panel D), respectively. Contrary to hypothesis (H2-1), the results show that adhocracy culture has an immediate, negative influence on restaurant firm growth ( $\beta_{it} = -0.357, p < 0.01$ ). This study suspects that the negative significant effect may be attributed to the nature of the restaurant operation. That is, restaurants should be operated conservatively to offer consistent and standard quality of product and services, thereby ensuring customer health and well-being. In this respect, the results imply that encouraging employees to be risk-taking and innovative damages the consistency of product and service qualities, and ultimately firm growth. Therefore, adhocracy culture is not suitable for enhancing restaurant growth. However, that the negative effect is insignificant afterward further implies that the adverse effect of adhocracy culture lasts only about a year.

Panel D of Table 4.8 further displays the result of testing hypothesis H2-2, which concerns the relationship between adhocracy culture and restaurant profitability. Contrary to our

Table 4. 8 Effect of adhocracy culture on restaurant performance

<i>Dependent Variable</i>	Panel C. $GROWTH_{it}$	Panel D. $ROE_{it}$
$ADHOCRACY_{it}$	- 0.357**	0.101
$ADHOCRACY_{it-1}$	- 0.095	2.542
$ADHOCRACY_{it-2}$	0.152	- 0.518
$DUMMY\_TANGIBLE_{it-1}$	- 0.005	0.083
$DUMMY\_FRANCHISE_{it-1}$	0.005	- 0.235
$DUMMY\_QSR_i$	0.025	0.073
$TOBIN'SQ_{it-1}$	0.105***	0.243
$ADVERTISING_{it-1}$	- 0.033****	
$CASHFLOW_{it-1}$	- 0.024	0.344**
$CAPEX_{it-1}$	0.045***	
$UNIT_{it-1}$	- 0.017**	0.084
$DEBT_{it-1}$		0.195****
$N(GROUP)$	682 (94)	558 (99)
$R^2$	0.312	0.189
$HAUSMAN\ TEST(\chi^2)$	8.100	23.160

1) The result of year dummies is not present in the table

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , \*\*\*\*  $p < 0.001$

belief, the result indicates that increasing adhocracy culture positively influences restaurant profitability. This may be partly due to the high-cost nature of restaurant operation. Since a restaurant is a high-cost, low-profit operation (Mun & Jang, 2018), firms may engage in innovation that leads to increasing profit. Consequently, adhocracy culture could positively influence restaurant profitability. However, it should be noted that the relationship is statistically insignificant. This suggests that although adhocracy culture could enhance the profitability of restaurant firms, it was not substantial enough to result in visible outcomes.

### 4.2.3 Hierarchy culture and restaurant performance

Table 4.9 displays the empirical result of examining hierarchy culture's effect on restaurant profitability (Panel E) and productivity (Panel F), respectively. Consistent with the hypothesis (H3-1), the results show that hierarchy culture positively influences restaurant

Table 4. 9 Effect of hierarchy culture on restaurant performance

<i>Dependent Variable</i>	Panel E. <i>ROE<sub>it</sub></i>	Panel F. <i>PRODUCT<sub>it</sub></i>
<i>HIERARCHY<sub>it</sub></i>	0.101	- 0.653*
<i>HIERARCHY<sub>it-1</sub></i>	2.542	0.043
<i>HIERARCHY<sub>it-2</sub></i>	- 0.518	0.000
<i>DUMMY_TANGIBLE<sub>it-1</sub></i>	0.083	0.016
<i>DUMMY_FRANCHISE<sub>it-1</sub></i>	- 0.235	0.117
<i>DUMMY_QSR<sub>i</sub></i>	0.073	0.127
<i>DEBT<sub>it-1</sub></i>	0.195****	
<i>CASHFLOW<sub>it-1</sub></i>	0.344**	
<i>TOBIN'SQ<sub>it-1</sub></i>	0.243	
<i>UNIT<sub>it-1</sub></i>	0.084	
<i>ADVERTISING<sub>it-1</sub></i>		- 0.028
<i>CAPEX<sub>it-1</sub></i>		- 0.049**
<i>ASSET<sub>it-1</sub></i>		0.044
<i>N (GROUP)</i>	558 (99)	784 (112)
<i>R<sup>2</sup></i>	0.189	0.259
<i>HAUSMAN TEST (χ<sup>2</sup>)</i>	23.160	28.350

1) The result of year dummies is not present in the table

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01, \*\*\*\* p < 0.001

profitability. The result confirms the notion that since comprehensive understanding of internal process and detailed operation is needed to increase profitability (Tsai, 2001), focusing on the internal process and compliance with rules and regulations through hierarchy culture increase profitability. However, it should be noted that the result is statistically insignificant ( $\beta_{it} = 0.101$ ,  $p > 0.1$ ). This could be partly explained by the agency issue between firm and unit managers. That is, although hierarchy culture was highly encouraged at the firm level, it is possible that hierarchy culture was not deeply rooted at the unit level because of unit managers' shirking or franchisees' free riding. Therefore, it is concluded that the hypothesis (H3-1) is not supported.

Meanwhile, Panel F displays the result of examining the effect of hierarchy culture on restaurant productivity. Contrary to our belief (H3-2) that hierarchy culture positively influences restaurant productivity, the result shows that it has a negative significant effect on restaurant productivity ( $\beta_{it} = -0.653$ ,  $p < 0.1$ ). Specifically, the result indicates that a 1% increase in the hierarchy culture causes the productivity to drop by 0.65%. The negative result could be attributed to the nature of productivity. That is, although hierarchy culture could internally effectuate the process, productivity is still subject to output (i.e., revenue), which requires firms to focus externally toward the market. This suggests that encouraging hierarchy culture alone may not be enough to enhance profitability in the restaurant industry.

#### **4.2.4 Market culture and restaurant performance**

Table 4.10 displays the empirical result of examining market culture's effect on restaurant growth (Panel G) and productivity (Panel H), respectively. Consistent with the hypothesis (H4-1), the results show that market culture has a positive impact on restaurant growth for two consecutive years. This suggests that market culture could increase restaurant growth by selling and marketing products and services that meet the market demands. However, the result is statistically insignificant ( $\beta_{it} = 0.205$ ,  $p > 0.1$ ); thus it fails to support the hypothesis. This study suspects that the insignificant results could be partly because market culture at the corporate level may not be rooted at the unit operation level; thus, the effect of market culture is not substantial enough to result in significant growth.

Similarly, the effect of market culture on restaurant productivity turns out to be insignificant. Panel H displays the result of the relationship between market culture and restaurant productivity. Consistent with our hypothesis (H4-2), the result indicates that market

culture has a negative impact on restaurant productivity. However, the relationship is statistically insignificant, failing to support the hypothesis.

Table 4. 10 Effect of Market culture on restaurant growth

<i>Dependent Variable</i>	Panel G. $GROWTH_{it}$	Panel H. $PRODUCT_{it}$
$MARKET_{it}$	0.205	- 0.279
$MARKET_{it-1}$	0.534	0.177
$MARKET_{it-2}$	- 0.322	- 0.347
$DUMMY\_TANGIBLE_{it-1}$	0.005	0.017
$DUMMY\_FRANCHISE_{it-1}$	0.002	- 0.000
$DUMMY\_QSR_i$	-	-
$TOBIN'SQ_{it-1}$	0.125***	
$CAPEX_{it-1}$	- 0.005	- 0.033
$UNIT_{it-1}$	- 0.034	
$ADVERTISING_{it-1}$		0.047
$ASSET_{it-1}$		0.024
$N(GROUP)$	874 (119)	784 (112)
$R^2$	0.123	0.174
$HAUSMAN\ TEST(\chi^2)$	60.360****	207.04****

1) The result of year dummies is not present in the table

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , \*\*\*\*  $p < 0.001$

### 4.3 Moderating effect of tangible service orientation

#### 4.3.1 Service orientation and moderating effect on the clan-performance relationship

Another objective of this study was to examine the moderating role of tangible service orientation. Table 4.11 shows the result of tangible service orientation's moderating effect on the clan-profitability (Panel I), and -productivity (Panel J) relationships. Consistent with the hypothesis (H5-1), the results reveal that tangible service orientation negatively moderates the clan-profitability relationship ( $\beta_{it-2} = - 2.749, p < 0.1$ ). Furthermore, the moderating effect is two-year lagged, which confirms our initial assumption that it has to process a serial link from culture to employee, behavior, customer satisfaction, and ultimately to performance. The result suggests

that since tangible service orientation is product-focused and less similar to clan culture, it hampers functioning of clan culture. The moderating effect is more visible in Figure 4.3.

Meanwhile, the results in Panel J further reveal that tangible service orientation does not significantly moderate the clan culture-productivity relationship. The insignificant result may partly due to the nature of productivity. Since productivity is highly subject to output (i.e., revenue), which is dependent on external factors, while both service orientation strengthens internal elements, it may not have significant impact on the clan culture-productivity relationship.

Table 4. 11 Moderating effect of service orientation on clan-performance relationship

<i>Dependent Variable</i>	Panel I. $ROE_{it}$	Panel J. $PRODUCT_{it}$
$CLAN_{it}$	2.040**	0.446
$CLAN_{it-1}$	- 1.839	0.082
$CLAN_{it-2}$	1.857	0.254
$DUMMY\_TANGIBLE_{it}$	0.544	- 0.128
$DUMMY\_TANGIBLE_{it-1}$	0.016	0.099
$DUMMY\_TANGIBLE_{it-2}$	0.898	0.117
$CLAN_{it} \times DUMMY\_TANGIBLE$	- 1.755	0.277
$CLAN_{it-1} \times DUMMY\_TANGIBLE_{it-1}$	0.302	- 0.245
$CLAN_{it-2} \times DUMMY\_TANGIBLE_{it-2}$	- 2.749*	- 0.333
$DUMMY\_FRANCHISE_{it-1}$	- 0.196	0.011
$DUMMY\_QSR_t$	- 0.001	-
$DEBT_{it-1}$	0.208*****	
$CASHFLOW_{it-1}$	0.386**	
$TOBIN'S Q_{it-1}$	0.250	
$UNIT_{it-1}$	0.064	
$ADVERTISING_{it-1}$		0.045
$CAPEX_{it-1}$		- 0.036*
$ASSET_{it-1}$		0.031
$N(GROUP)$	550 (99)	733 (111)
$R^2$	0.180	0.195
$HAUSMAN TEST (\chi^2)$	17.800	105.43*****

1) The result of year dummies is not present in the table

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , \*\*\*\*\*  $p < 0.001$

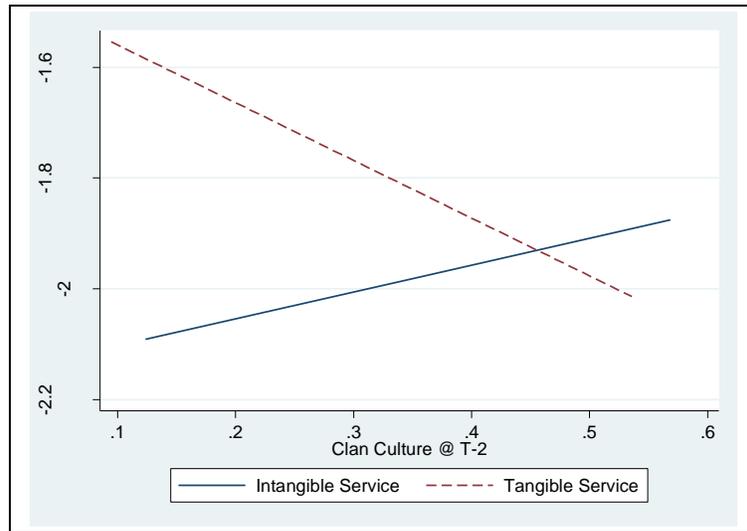


Figure 4. 3 Moderating effect of tangible service orientation on the clan culture-profitability relationship

#### 4.3.2 Service orientation and moderating effect on the adhocracy-performance relationship

Table 4.12 shows the result of tangible service orientation's moderating effect on the adhocracy-growth (Panel K), and -profitability (Panel L) relationships. The result reveals that consistent with our hypothesis (H5-2), tangible service orientation negatively moderates the adhocracy-growth relationship ( $\beta_{it} = -0.557, p < 0.1$ ). The result implies that there is a difference between adhocracy culture and tangible service orientation, which caused the tangible service orientation to obstruct the effect of adhocracy culture on restaurant growth. However, it should be noted that the moderating role has only an immediate effect. This may be partly because of the external nature of adhocracy culture. Since adhocracy culture is externally focused and adaptable to change, it is able to have an immediate effect on growth, thereby enabling the tangible service orientation to impose a much quicker impact on the adhocracy-growth relationship. The negative moderating effect of tangible service orientation is displayed in Figure 4.4.

Meanwhile, the result further revealed that, contrary to our hypothesis (H5-2), tangible service orientation has an immediate positive moderating effect on the adhocracy-profitability relationship ( $\beta_{it} = -5.164, p < 0.05$ ). The positive moderating effect could be due to the hierarchical attribute of tangible service orientation. Although tangible service orientation has characteristics conflicting with adhocracy culture, its hierarchical nature may impose a

substantial influence on restaurant profitability. As a result, a tangible service orientation positively moderates the adhocracy-profitability relationship. The positive moderating effect of tangible service orientation is displayed in Figure 4.4.

Table 4. 12 Moderating effect of service orientation on adhocracy-performance relationship

<i>Dependent Variable</i>	Panel K. <i>GROWTH<sub>it</sub></i>	Panel L. <i>ROE<sub>it</sub></i>
<i>ADHOCRACY<sub>it</sub></i>	0.004	- 4.947*
<i>ADHOCRACY<sub>it-1</sub></i>	0.061	- 0.393
<i>ADHOCRACY<sub>it-2</sub></i>	0.049	- 1.900
<i>DUMMY_TANGIBLE<sub>it</sub></i>	0.102**	- 1.108**
<i>DUMMY_TANGIBLE<sub>it-1</sub></i>	0.082	0.214
<i>DUMMY_TANGIBLE<sub>it-2</sub></i>	0.007	- 0.809
<i>ADHOCRACY<sub>it</sub> × DUMMY_TANGIBLE<sub>it</sub></i>	- 0.557*	5.164**
<i>ADHOCRACY<sub>it-1</sub> × DUMMY_TANGIBLE<sub>it-1</sub></i>	- 0.243	- 0.544
<i>ADHOCRACY<sub>it-2</sub> × DUMMY_TANGIBLE<sub>it-2</sub></i>	- 0.169	3.919
<i>DUMMY_FRANCHISE<sub>it-1</sub></i>	- 0.016	- 0.249
<i>DUMMY_QSR<sub>t</sub></i>	-	0.124
<i>DEBT<sub>it-1</sub></i>		0.217****
<i>CASHFLOW<sub>it-1</sub></i>	- 0.021	0.396**
<i>TOBIN'SQ<sub>it-1</sub></i>	0.102***	0.218
<i>UNIT<sub>it-1</sub></i>	- 0.075***	0.051
<i>ADVERTISING<sub>it-1</sub></i>	- 0.023	
<i>CAPEX<sub>it-1</sub></i>	0.036**	
<i>N (GROUP)</i>	671 (94)	550 (99)
<i>R<sup>2</sup></i>	0.137	0.190
<i>HAUSMAN TEST (χ<sup>2</sup>)</i>	53.330**	19.670

1) The result of year dummies is not present in the table

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01, \*\*\*\* p < 0.001

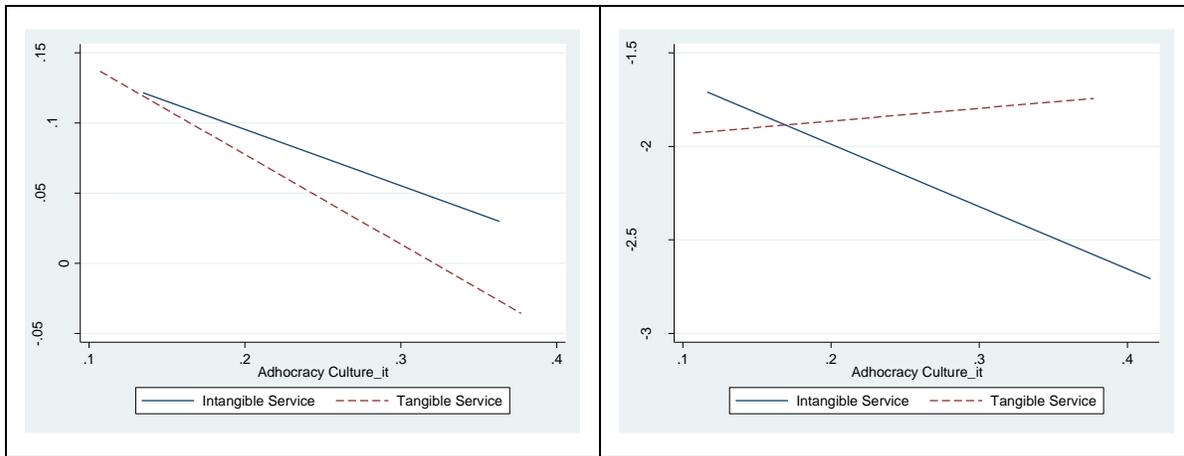


Figure 4. 4 Moderating effect of tangible service orientation on the adhocracy-performance relationship

### 4.3.3 Service orientation and moderating effect on the hierarchy-performance relationship

Table 4.13 shows the result of tangible service orientation’s moderating effect on the hierarchy-profitability (Panel O), and -productivity (Panel P) relationships. The results reveal that consistent with our hypothesis (H5-3), tangible service orientation positively moderates the hierarchy-profitability relationship ( $\beta_{it-2} = 4.474, p < 0.1$ ). The result suggests that since tangible service orientation and hierarchy culture share commonalities, tangible service orientation could help hierarchy culture to maximize its positive effect on restaurant profitability, resulting in higher ROE than intangible service-oriented firms. It should be noted that tangible service orientation has a two-year lagged effect. Figure 8 displays the graphical representation of the result. It is evident from Figure 8 that tangible service orientation positively moderates the hierarchy-profitability relationship.

The result of Panel P further reveals that, consistent with our hypothesis (H5-3), tangible service orientation has an immediate positive moderating effect on the hierarchy-productivity relationship ( $\beta_{it} = 1.538, p < 0.1$ ). This positive moderating effect also suggests that since tangible service orientation and hierarchy culture share commonalities, tangible service orientation could maximize the effect of hierarchy culture on restaurant productivity, resulting in higher productivity than intangible service-oriented firms. As a result, tangible service orientation positively moderates the adhocracy-profitability relationship. That a tangible service orientation has an instant moderating effect (as opposed to lagged effect) could be explained by

the external elements of tangible service orientation. The positive moderating effect of tangible service orientation is visible in Figure 4.5.

Table 4. 13 Moderating effect of service orientation on hierarchy-performance relationship

<i>Dependent Variable</i>	Panel O. <i>ROE<sub>it</sub></i>	Panel P. <i>PRODUCT<sub>it</sub></i>
<i>HIERARCHY<sub>it</sub></i>	0.999	- 1.029
<i>HIERARCHY<sub>it-1</sub></i>	3.731	0.454
<i>HIERARCHY<sub>it-2</sub></i>	- 2.828	0.001
<i>DUMMY_TANGIBLE<sub>it</sub></i>	0.317	- 0.289*
<i>DUMMY_TANGIBLE<sub>it-1</sub></i>	0.480	0.057
<i>DUMMY_TANGIBLE<sub>it-2</sub></i>	- 0.692*	- 0.033
<i>HIERARCHY<sub>it</sub> × DUMMY_TANGIBLE<sub>it</sub></i>	- 1.962	1.538*
<i>HIERARCHY<sub>it-1</sub> × DUMMY_TANGIBLE<sub>it-1</sub></i>	- 2.470	- 0.161
<i>HIERARCHY<sub>it-2</sub> × DUMMY_TANGIBLE<sub>it-2</sub></i>	4.474*	0.284
<i>DUMMY_FRANCHISE<sub>it-1</sub></i>	- 0.220	- 0.001
<i>DUMMY_QSR<sub>t</sub></i>	0.060	
<i>DEBT<sub>it-1</sub></i>	0.211*****	
<i>CASHFLOW<sub>it-1</sub></i>	0.352**	
<i>TOBIN'SQ<sub>it-1</sub></i>	0.275*	
<i>UNIT<sub>it-1</sub></i>	0.078	
<i>ADVERTISING<sub>it-1</sub></i>		0.048
<i>CAPEX<sub>it-1</sub></i>		- 0.035*
<i>ASSET<sub>it-1</sub></i>		0.030
	550 (99)	773 (111)
<i>R<sup>2</sup></i>	0.197	0.174
<i>HAUSMAN TEST (χ<sup>2</sup>)</i>	19.790	206.87*****

1) The result of year dummies is not present in the table

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01, \*\*\*\*\* p < 0.001

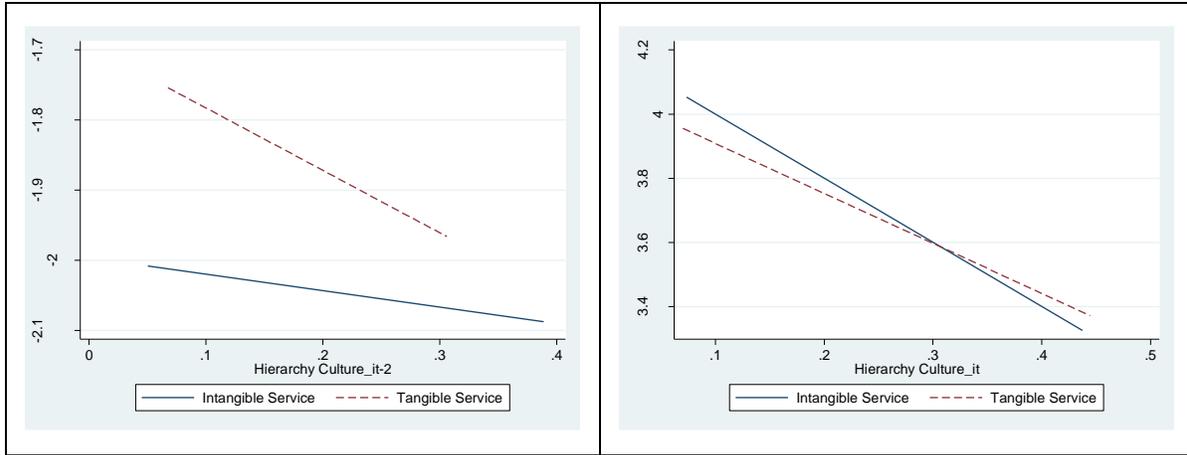


Figure 4. 5 Moderating effect of tangible service orientation on the hierarchy-performance relationship

#### 4.3.4 Service orientation and moderating effect on the market-performance relationship

Table 4.14 shows the result of tangible service orientation’s moderating effect on the market-growth (Panel Q), and -productivity (Panel R) relationships. The result reveals that consistent with the hypothesis (H5-4), a tangible service orientation positively moderates the market-growth relationship ( $\beta_{it-1} = 0.356, p < 0.05$ ). The result suggests that since tangible service orientation is similar to market culture in developing products that match consumer expectation and demands, it could help market culture enhance restaurant growth by positively moderating the market culture-growth relationship. Figure 9 displays the graphical representation of the moderating effect. It is evident from Figure 4.6 that tangible service orientation positively moderates the relationship between market culture and restaurant growth.

Meanwhile, the moderating effect of tangible service orientation on the market-productivity relationship offers different results. Panel P of Table 4.14 reveals that, contrary to the hypothesis (H5-4), tangible service orientation negatively moderates the market-productivity relationship ( $\beta_{it-1} = - 1.494, p < 0.1$ ). This may be partly explained by an initial negative relationship between market culture and restaurant productivity. That is, since market culture inherently decreases productivity, a market-similar tangible service orientation further maximizes the negative effect of market culture on restaurant productivity. The negative moderating effect of tangible service orientation is represented in Figure 4.6.

Table 4. 14 Moderating effect of service orientation on market-performance relationship

<i>Dependent Variable</i>	Panel Q. <i>GROWTH<sub>it</sub></i>	Panel R. <i>PRODUCT<sub>it</sub></i>
<i>MARKET<sub>it</sub></i>	0.097	0.569
<i>MARKET<sub>it-1</sub></i>	0.357	- 0.208
<i>MARKET<sub>it-2</sub></i>	0.001	- 0.346
<i>DUMMY_TANGIBLE<sub>it</sub></i>	- 0.078	0.423
<i>DUMMY_TANGIBLE<sub>it-1</sub></i>	- 0.111**	- 0.137**
<i>DUMMY_TANGIBLE<sub>it-2</sub></i>	0.043	0.022
<i>MARKET<sub>it</sub> × DUMMY_TANGIBLE<sub>it</sub></i>	0.259	- 1.494**
<i>MARKET<sub>it-1</sub> × DUMMY_TANGIBLE<sub>it-1</sub></i>	0.356**	0.529
<i>MARKET<sub>it-2</sub> × DUMMY_TANGIBLE<sub>it-2</sub></i>	- 0.210	- 0.029
<i>DUMMY_FRANCHISE<sub>it-1</sub></i>	0.020	- 0.011
<i>DUMMY_QSR<sub>t</sub></i>	-	-
<i>TOBIN'SQ<sub>it-1</sub></i>	0.128***	
<i>CAPEX<sub>it-1</sub></i>	- 0.007	- 0.035*
<i>UNIT<sub>it-1</sub></i>	- 0.028	
<i>ADVERTISING<sub>it-1</sub></i>		0.044
<i>ASSET<sub>it-1</sub></i>		0.023
<i>R<sup>2</sup></i>	857 (119) 0.137	773 (111) 0.165
<i>HAUSMAN TEST (χ<sup>2</sup>)</i>	196.31****	205.02****

1) The result of year dummies is not present in the table

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01, \*\*\*\* p < 0.001

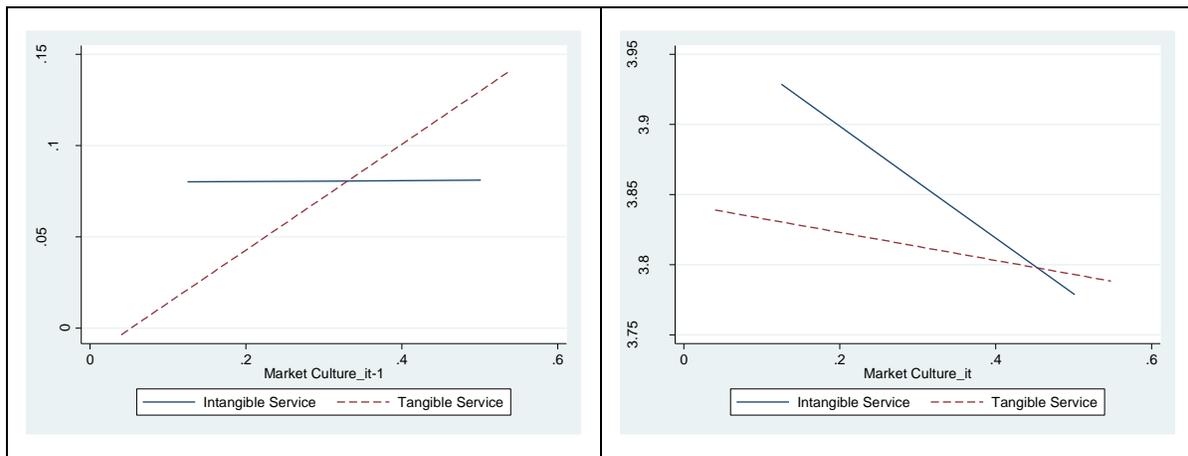


Figure 4. 6 Moderating effect of tangible service orientation on the market-performance relationship

## 4.4 Moderating effect of franchising

### 4.4.1 Moderating effect of franchising on the culture-growth relationship

Another objective of this study was to examine the moderating effect of franchising on the relationship between organizational culture and restaurant performance. Table 4.15 displays the moderating effect on the adhocracy- (Panel S), and market- (Panel T) growth relationships. The result of Panel S reveals that, consistent with the hypothesis (H6-1), franchising positively moderates the adhocracy-growth relationship ( $\beta_{it} = 0.936, p < 0.05$ ). The result suggests that since franchising enables restaurants to expedite growth with fewer resources (Hsu & Jang, 2009), restaurant firms could maximize the positive effect of reinforcing adhocracy culture on their growth. Furthermore, the results also show that franchising negatively moderates the adhocracy-growth relationship after two years ( $\beta_{it-2} = -0.861, p < 0.1$ ). This further suggests that although franchising immediately enhances the adhocracy-growth relationship, its effect disappears after one year, and eventually exacerbates the relationship after two years. Franchising could be utilized as a strategic tool to maximize growth under innovative culture, but it should be executed with caution, as its lagged effect would hamper further growth after two years. The moderating effect of franchising is represented in Figure 4.7.

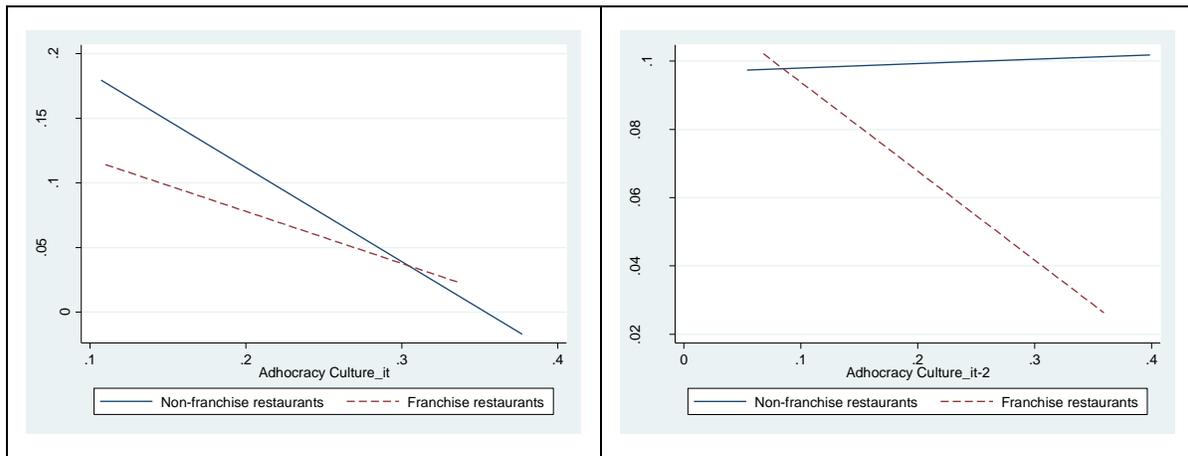


Figure 4. 7 Moderating effect of franchising on the adhocracy-growth relationship

Panel T shows the result of the moderating role of franchising on the market-growth relationship. Consistent with the hypothesis (H6-1), the result reveals that franchising positively moderates the market-growth relationship ( $\beta_{it-2} = 0.692, p < 0.05$ ). This result suggests that since

franchising expedites firm growth, it has a positive moderating effect on the market-growth relationship. This means that franchise restaurant firms could gain better growth under a market culture than nonfranchise restaurant firms. However, it should be noted that the moderation takes effect over a long-term frame, as it becomes effective only after two years. This result suggests that although franchising itself directly increases restaurant growth, its moderating effect is delayed due to a serial link between organizational culture and restaurant performance, as explained by the service-profit chain. Figure 4.8 shows the graphical presentation of the moderating effect.

Table 4. 15 Moderating effect of franchising on culture-growth relationship

<i>DV = GROWTH<sub>it</sub></i>	Panel S. Adhocracy	Panel T. Market
<i>CULTURE<sub>it</sub></i>	- 1.079***	- 0.083
<i>CULTURE<sub>it-1</sub></i>	- 0.028	0.681
<i>CULTURE<sub>it-2</sub></i>	0.839*	- 0.459
<i>DUMMY_FRANCHISE<sub>it</sub></i>	- 0.138	0.034
<i>DUMMY_FRANCHISE<sub>it-1</sub></i>	- 0.025	0.153
<i>DUMMY_FRANCHISE<sub>it-2</sub></i>	0.166	- 0.276
<i>CULTURE<sub>it</sub> × DUMMY_FRANCHISE<sub>it</sub></i>	0.936**	0.060
<i>CULTURE<sub>it-1</sub> × DUMMY_FRANCHISE<sub>it-1</sub></i>	- 0.085	- 0.563
<i>CULTURE<sub>it-2</sub> × DUMMY_FRANCHISE<sub>it-2</sub></i>	- 0.861*	0.692**
<i>DUMMY_QSR<sub>t</sub></i>	0.025	-
<i>TOBIN'SQ<sub>it-1</sub></i>	0.105****	0.104***
<i>ADVERTISING<sub>it-1</sub></i>	- 0.032****	- 0.021
<i>CASHFLOW<sub>it-1</sub></i>	- 0.029	- 0.013
<i>CAPEX<sub>it-1</sub></i>	0.050****	0.036**
<i>UNIT<sub>it-1</sub></i>	- 0.018**	- 0.079**
<i>N (GROUP)</i>	682 (94)	682 (94)
<i>R<sup>2</sup></i>	0.330	0.138
<i>HAUSMAN TEST (χ<sup>2</sup>)</i>	34.90	85.61****

1) The result of year dummies is not present in the table

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01, \*\*\*\* p < 0.001

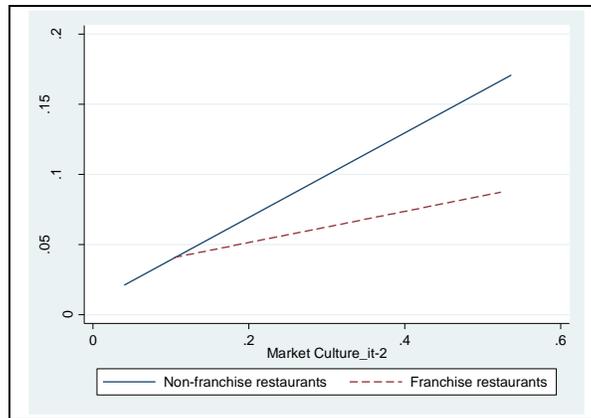


Figure 4. 8 Moderating effect of franchising on the culture-growth relationship

#### 4.4.2 Moderating effect of franchising on the culture-profitability relationship

Table 4.16 displays the moderating effect of franchising on the clan- (Panel U) adhocracy- (Panel V), and hierarchy- (Panel W) profitability relationships. The result of Panel U reveals that franchising positively moderates the clan-profitability relationship ( $\beta_{it} = 3.726, p < 0.05$ ). This result confirms the hypothesis that franchising positively moderates the organizational culture-performance relationship (H6-2). This implies that since franchising enables restaurants to improve its cost structure through economies of scale and stable cash flow (Koh et al., 2015), franchising provides a financial cushion that attenuates the adverse effect of clan culture on profitability.

Meanwhile, the result further shows that franchising negatively moderates the relationship between adhocracy culture and restaurant profitability. Results in Panel V display the moderating effect of franchising on the adhocracy-profitability relationship. Contrary to our belief (H6-2), the result revealed that franchising negatively moderates the adhocracy-profitability relationship ( $\beta_{it} = - 8.850, p < 0.05$ ). This study suspects that negative moderation may be partly due to the relationship between franchising and firm size. Considering that process innovation is relatively weak for larger firms (Mallapragada & Srinivasan, 2016), small-sized restaurants have a higher tendency to pursue innovative cultures. This means that a high initial cost related to franchising (Mathewson & Winter, 1985) could aggravate cost structures for small, adhocracy-focused firms, therefore franchising negatively moderates the organizational culture-performance relationship (Figure 4.9).

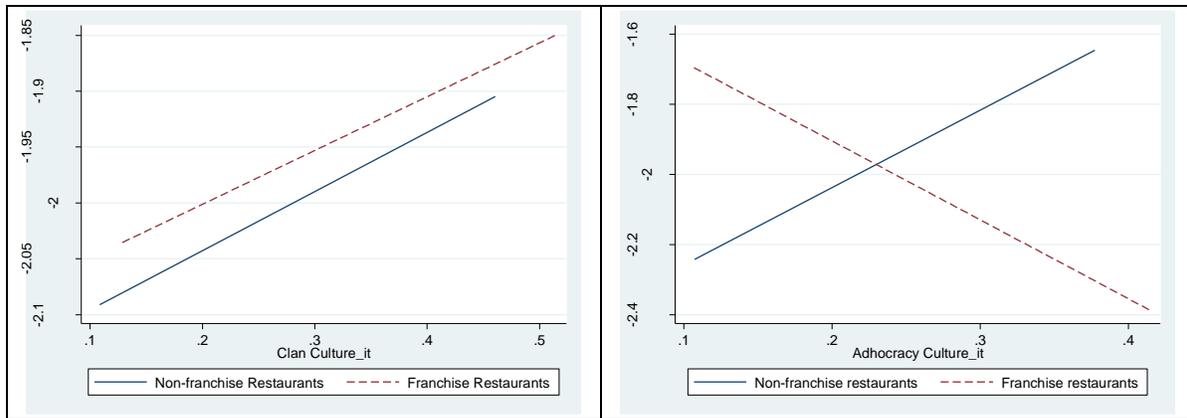


Figure 4. 9 Moderating effect of franchising on the culture-profitability relationship

Table 4. 16 Moderating effect of franchising on culture-profitability relationship

$DV = ROE_{it}$	Panel U. Clan	Panel V. Adhocracy	Panel W. Hierarchy
$CULTURE_{it}$	- 1.773	4.032	- 5.788
$CULTURE_{it-1}$	- 1.377	- 3.179	12.423*
$CULTURE_{it-2}$	1.992	- 0.030	- 3.311
$DUMMY\_FRANCHISE_{it}$	- 1.344**	1.828*	- 1.388
$DUMMY\_FRANCHISE_{it-1}$	0.095	- 1.393	1.807
$DUMMY\_FRANCHISE_{it-2}$	0.686	0.260	- 0.285
$CULTURE_{it} \times DUMMY\_FRANCHISE_{it}$	3.726**	- 8.850**	6.868
$CULTURE_{it-1} \times DUMMY\_FRANCHISE_{it-1}$	- 1.067	5.146	- 11.931*
$CULTURE_{it-2} \times DUMMY\_FRANCHISE_{it-2}$	- 1.550	- 0.463	3.115
$DUMMY\_QSR_t$	- 0.017	0.014	0.050
$DEBT_{it-1}$	0.199****	0.193****	0.198****
$CASHFLOW_{it-1}$	0.362**	0.363**	0.349**
$TOBIN'SQ_{it-1}$	0.268*	0.234	0.225
$UNIT_{it-1}$	0.077	0.062	0.086
$N(GROUP)$	558 (99)	558 (99)	558 (99)
$R^2$	0.201	0.194	0.198
$HAUSMAN\ TEST(\chi^2)$	22.48	38.150	34.670

1) The result of year dummies is not present in the table

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , \*\*\*\*  $p < 0.001$

Furthermore, the result in Panel W shows the moderating role of franchising on the hierarchy-profitability relationship. Contrary to our hypothesis (H6-2), the result reveals that franchising negatively moderates the adhocracy-profitability relationship ( $\beta_{it-1} = -11.931, p < 0.1$ ). The result suggests that the combination of hierarchy culture and franchising may not be suitable for enhancing restaurant profitability. The negative moderating effect of franchising may partly be due to a misfit between franchising and hierarchy culture. That is, although both hierarchy culture and franchising yield higher profitability separately, too much emphasis on compliance and control under franchising system hampers the achievement of higher profitability. This further implies that a certain level of adjustment or localization may be required to enhance restaurant profitability. Figure 4.10 shows the negative moderating effect.

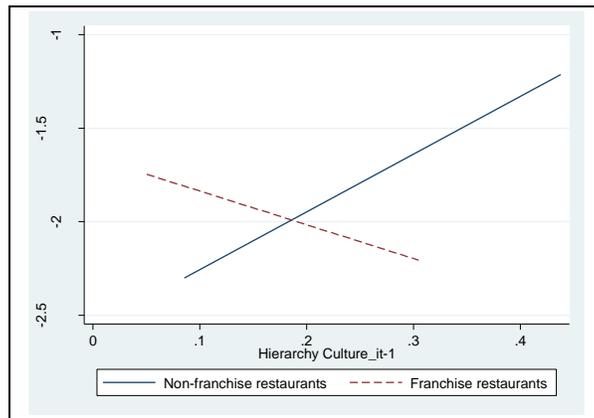


Figure 4. 10 Moderating effect of franchising on the hierarchy-profitability relationship

#### 4.4.2 Moderating effect of franchising on the culture-profitability relationship

Table 4.17 displays the moderating effect of franchising on the clan- (Panel X) hierarchy- (Panel Y), and market- (Panel Z) productivity relationships. The result of Panel X reveals that franchising positively moderates the clan-productivity relationship ( $\beta_{it} = 0.516, p < 0.1$ ). This result confirms our hypothesis that franchising positively moderates the organizational culture-productivity relationship (H6-3). This implies that since franchising yields higher productivity by linking franchisees' personal wealth with unit-level profits, it could further enhance the positive relationship between clan culture and restaurant productivity. Figure 4.11 graphically shows the positive moderating effect of franchising on the clan-productivity relationship.

Meanwhile, the results in Panel Y reveal that franchising does not significantly moderate the hierarchy-productivity relationship. The results indicate that although franchising positively moderates the relationship for the first two years, the effect is not statistically significant. This study suspects that it may be due to the operational misfit between franchising and hierarchy culture, thereby implying that encouraging a hierarchy culture under a franchising system is not preferable for enhancing restaurant productivity.

In terms of the relationship between market culture and productivity, the result of Panel Z revealed that franchising negatively moderates the relationship ( $\beta_{it-1} = -0.874, p < 0.01$ ). This is contrary to our hypothesis (H6-3) that franchising positively moderates the market-productivity relationship. The negative moderating effect may be attributed to a weak moderating effect. That is, although franchising could mitigate the adverse effect of market culture on productivity, the

Table 4. 17 Moderating effect of franchising on culture-productivity relationship

<i>DV=PRODUCT<sub>it</sub></i>	Panel X. Clan	Panel Y. Hierarchy	Panel Z. Market
<i>CULTURE<sub>it</sub></i>	0.148	- 1.023*	- 0.599
<i>CULTURE<sub>it-1</sub></i>	- 0.472*	0.068	0.832***
<i>CULTURE<sub>it-2</sub></i>	0.189	0.235	- 0.571
<i>DUMMY_FRANCHISE<sub>it</sub></i>	- 0.169	- 0.133	- 0.152
<i>DUMMY_FRANCHISE<sub>it-1</sub></i>	- 0.195**	- 0.056	0.247***
<i>DUMMY_FRANCHISE<sub>it-2</sub></i>	0.130*	0.094	- 0.026
<i>CULTURE<sub>it</sub> × DUMMY_FRANCHISE<sub>it</sub></i>	0.517	0.840	0.451
<i>CULTURE<sub>it-1</sub> × DUMMY_FRANCHISE<sub>it-1</sub></i>	0.516*	0.104	- 0.874***
<i>CULTURE<sub>it-2</sub> × DUMMY_FRANCHISE<sub>it-2</sub></i>	- 0.251	- 0.129	0.290
<i>DUMMY_QSR<sub>i</sub></i>	-	-	-
<i>ADVERTISING<sub>it-1</sub></i>	0.040	0.048	0.048
<i>CAPEX<sub>it-1</sub></i>	- 0.036*	- 0.033*	- 0.033
<i>ASSET<sub>it-1</sub></i>	0.030	0.031	0.029
<i>N (GROUP)</i>	784 (112)	782 (111)	784 (112)
<i>R<sup>2</sup></i>	0.206	0.170	0.176
<i>HAUSMAN TEST (χ<sup>2</sup>)</i>	288.8****	98.6****	163.9****

1) The result of year dummies is not present in the table

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01, \*\*\*\* p < 0.001

moderating effect may be too weak to impose a significant influence on the relationship between the market and productivity. This implies that operational productivity could not be offset by a strategic approach (franchising).

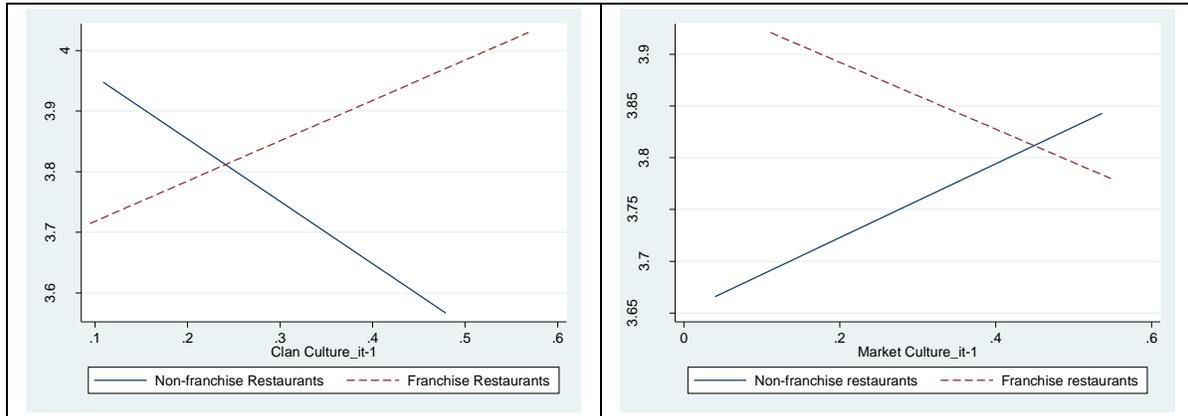


Figure 4. 11 Moderating effect of franchising on the culture-productivity relationship

#### 4.5 Moderating effect of economic condition

##### 4.5.1 Moderating effect of recession on the organizational culture-growth relationship

Finally, another objective of this study was to examine the moderating effect of recession on the relationship between organizational culture and restaurant performance. Table 4.18 displays the moderating effect of recession on the adhocracy- (Panel 1) and market- (Panel 2), and restaurant growth relationship. Contrary to the hypothesis (H7-1) that recession negatively moderates the relationship, the result shows that recession does not significantly moderate the relationship between adhocracy and market cultures, and restaurant productivity. The result implies that although recession may impose substantial constraints on restaurant growth, it does not influence how organization-wide external focus in the operation yields growth.

Table 4. 18 Moderating effect of recession on culture-growth relationship

<i>DV=GROWTH<sub>it</sub></i>	Panel 1. Adhocracy	Panel 2. Market
<i>CULTURE<sub>it</sub></i>	- 0.312*	- 0.076
<i>CULTURE<sub>it-1</sub></i>	- 0.125	0.275
<i>CULTURE<sub>it-2</sub></i>	- 0.044	0.063
<i>DUMMY_RECESSION<sub>it</sub></i>	- 0.003	- 0.028
<i>DUMMY_RECESSION<sub>it-1</sub></i>	0.044	- 0.158
<i>DUMMY_RECESSION<sub>it-2</sub></i>	- 0.067	0.031
<i>CULTURE<sub>it</sub>×DUMMY_RECESSION<sub>it</sub></i>	- 0.081	- 0.014
<i>CULTURE<sub>it-1</sub>×DUMMY_RECESSION<sub>it-1</sub></i>	- 0.385	0.309
<i>CULTURE<sub>it-2</sub>×DUMMY_RECESSION<sub>it-2</sub></i>	0.360	- 0.105
<i>DUMMY_FRANCHISE<sub>it-1</sub></i>	- 0.031*	- 0.026
<i>DUMMY_TANGIBLE<sub>it-1</sub></i>	0.019	0.021
<i>DUMMY_QSR<sub>i</sub></i>	-	-
<i>TOBIN'SQ<sub>it-1</sub></i>	0.099**	0.102**
<i>ADVERTISING<sub>it-1</sub></i>	- 0.019	- 0.022
<i>CASHFLOW<sub>it-1</sub></i>	- 0.016	- 0.015
<i>CAPEX<sub>it-1</sub></i>	0.034*	0.036**
<i>UNIT<sub>it-1</sub></i>	- 0.084***	- 0.072*
<i>N (GROUP)</i>	682 (94)	682 (94)
<i>R<sup>2</sup></i>	0.273	0.149
<i>HAUSMAN TEST (χ<sup>2</sup>)</i>	51.22****	46.78**

1) The result of year dummies is not present in the table

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01, \*\*\*\* p < 0.001

#### 4.5.2 Moderating effect of recession on the organizational culture-profitability relationship

Table 4.19 displays the moderating effect of recession on the clan- (Panel 3), adhocracy- (Panel 4), and hierarchy- (Panel 5) profitability relationship. Based on the shirking theory that recession forces employees to better perform, this study expected that recession positively moderates the relationship between organizational culture and restaurant profitability (H7-2). However, the result of Panel 3 reveals that recession does not significantly moderate the clan-profitability relationship. This suggests that although recession delimits restaurant profitability, it

does not impose substantial influence on a negative relationship between clan culture and restaurant profitability.

Panels 4 and 5 show the result of testing the moderating effect of recession on adhocracy-profitability, and the hierarchy-profitability relationships, respectively. Consistent with the hypothesis (H7-2), the results reveal that recession positively moderates the adhocracy-profitability relationship ( $\beta_{it-2} = 4.689, p < 0.1$ ) and the hierarchy-profitability relationship ( $\beta_{it-2} = 4.504, p < 0.01$ ). These results confirm the notion that although recession imposes substantial constraints on restaurant profitability, it also motivates employees to improve performance through which the profitability could also be improved. As a result, recession mitigates the adverse effect of adhocracy and hierarchy cultures on restaurant profitability. This implies that economic condition could also function as a motivating mechanism during the recession. It should be noted from the two-year lagged effect that because the effect of recession influences employee behavior, it takes some time to result in visible outcome on profitability. Figure 4.12 displays the graphical presentation of the moderating effect of recession.

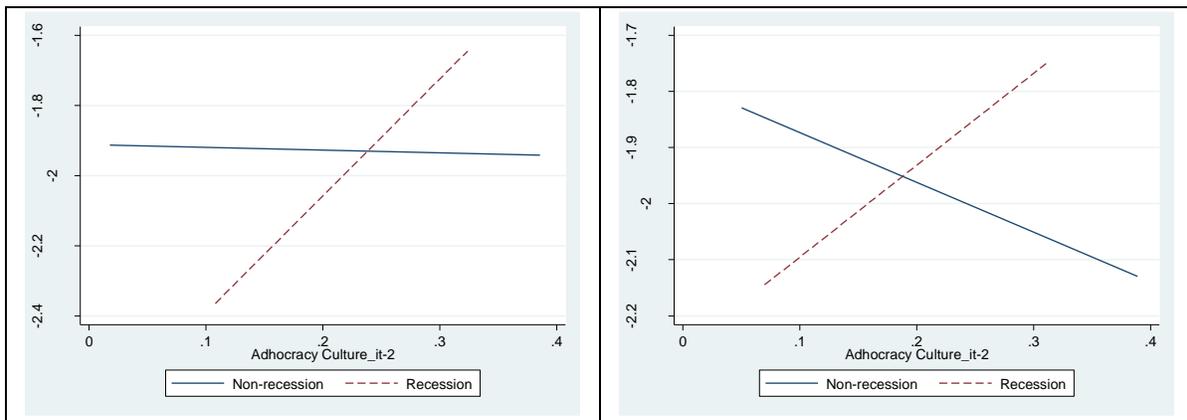


Figure 4. 12 Moderating effect of recession on the culture-profitability relationship

Table 4. 19 Moderating effect of recession on culture-profitability relationship

$DV=ROE_{it}$	Panel 3. Clan	Panel 4. Adhocracy	Panel 5. Hierarchy
$CULTURE_{it}$	1.223	- 3.114	2.061
$CULTURE_{it-1}$	- 1.939**	0.646	0.708
$CULTURE_{it-2}$	0.879	- 1.007	- 1.631
$DUMMY\_RECESSION_{it}$	0.107	- 1.360*	- 0.222
$DUMMY\_RECESSION_{it-1}$	- 0.579	- 0.785	- 0.374
$DUMMY\_RECESSION_{it-2}$	0.593	- 1.217*	- 0.399
$CULTURE_{it} \times DUMMY\_RECESSION_{it}$	- 1.659	4.384	2.287
$CULTURE_{it-1} \times DUMMY\_RECESSION_{it-1}$	0.197	1.276	2.455
$CULTURE_{it-2} \times DUMMY\_RECESSION_{it-2}$	- 2.568	4.689*	4.504***
$DUMMY\_FRANCHISE_{it-1}$	- 0.225	- 0.239	0.052
$DUMMY\_TANGIBLE_{it-1}$	0.117	0.094	0.095
$DUMMY\_QSR_i$	- 0.005	0.056	-
$DEBT_{it-1}$	0.194****	0.209****	0.164**
$CASHFLOW_{it-1}$	0.345**	0.329**	0.477***
$TOBIN'S Q_{it-1}$	0.242	0.241	0.097
$UNIT_{it-1}$	0.073	0.066	- 0.202
$N(GROUP)$	558 (99)	558 (99)	558 (99)
$R^2$	0.196	0.118	0.004
$HAUSMAN TEST (\chi^2)$	23.39	37.00	54.82***

1) The result of year dummies is not present in the table

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , \*\*\*\*  $p < 0.001$

#### 4.5.3 Moderating effect of recession on the organizational culture-productivity relationship

Table 4.20 displays the moderating effect of recession on the clan- (Panel 6), hierarchy- (Panel 7), and market- (Panel 8) productivity relationship. Based on the shirking theory that recession forces employees to better perform, this study expected that recession positively moderates the relationship between organizational culture and restaurant profitability (H7-3). However, the result of Panel 6 reveal that recession does not significantly moderate the clan-productivity relationship. This suggests that although recession delimits restaurant profitability, it

does not impose substantial influence on the positive relationship between clan culture and restaurant productivity.

Panel 7 shows the result of testing the moderating effect of recession on the hierarchy-productivity relationship. Consistent with the hypothesis (H7-3), the result reveals that recession positively moderates the adhocracy-productivity relationship for the first two years ( $\beta_{it} = 1.099, p < 0.1$ ;  $\beta_{it-1} = 0.768, p < 0.05$ ). These results confirm our argument that recession inherently motivates employees to better perform and that it could further extend the positive effect of hierarchy culture on restaurant productivity. This result also supports the idea that recession plays a part in motivating employee behaviors. Figure 4.13 illustrates the moderating effect.

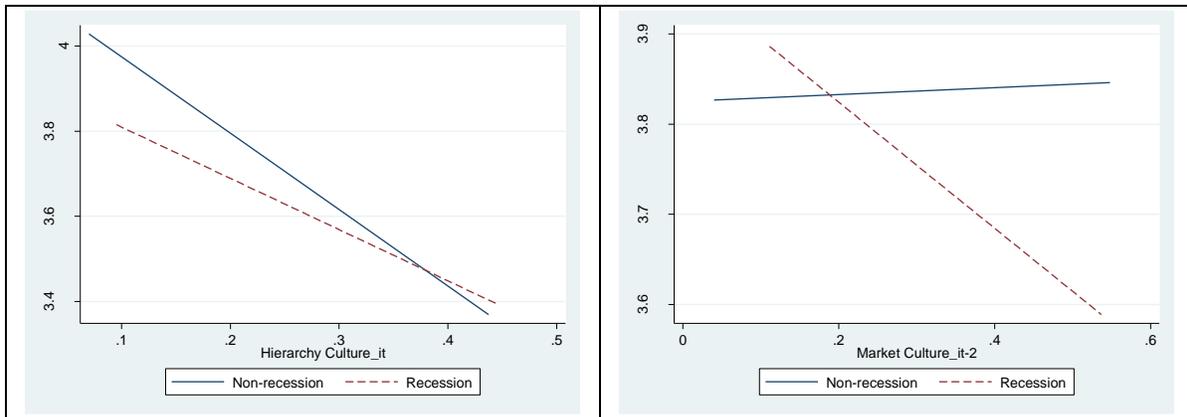


Figure 4. 13 Moderating effect of recession on the culture-productivity relationship

Meanwhile, the result of Panel 8 reveals the opposite relationship. Panel 8 shows the result of testing the moderating effect of recession on the market-productivity relationship. Contrary to the hypothesis (H7-3), the result reveals that recession negatively moderates the market-productivity relationship for the first two years ( $\beta_{it-2} = - 0.460, p < 0.1$ ). The result implies that pursuing a market culture during a recession is not conducive to improving restaurant productivity.

Table 4. 20 Moderating effect of recession on culture-productivity relationship

<i>DV=PRODUCT<sub>it</sub></i>	Panel 6. Clan	Panel 7. Hierarchy	Panel 8. Market
<i>CULTURE<sub>it</sub></i>	0.641***	- 0.412	- 0.274
<i>CULTURE<sub>it-1</sub></i>	- 0.052**	0.089	0.285
<i>CULTURE<sub>it-2</sub></i>	0.003*	0.067	- 0.312
<i>DUMMY_RECESSION<sub>it</sub></i>	0.256	- 0.030	0.263**
<i>DUMMY_RECESSION<sub>it-1</sub></i>	0.181	0.058	0.336****
<i>DUMMY_RECESSION<sub>it-2</sub></i>	0.144	0.124	0.335****
<i>CULTURE<sub>it</sub>×DUMMY_RECESSION<sub>it</sub></i>	- 0.298	1.099*	- 0.366
<i>CULTURE<sub>it-1</sub>×DUMMY_RECESSION<sub>it-1</sub></i>	0.078	0.768**	- 0.478
<i>CULTURE<sub>it-2</sub>×DUMMY_RECESSION<sub>it-2</sub></i>	0.216	0.418	- 0.460*
<i>DUMMY_FRANCHISE<sub>it-1</sub></i>	- 0.001	0.009	- 0.001
<i>DUMMY_TANGIBLE<sub>it-1</sub></i>	0.010	0.021	0.019
<i>DUMMY_QSR<sub>i</sub></i>	-	-	-
<i>ADVERTISING<sub>it-1</sub></i>	0.045	0.048	0.048
<i>CAPEX<sub>it-1</sub></i>	- 0.035*	- 0.028	- 0.032
<i>ASSET<sub>it-1</sub></i>	0.025****	0.025	0.023
<i>N (GROUP)</i>	784 (112)	784 (112)	784 (112)
<i>R<sup>2</sup></i>	0.192	0.174	0.313
<i>HAUSMAN TEST (χ<sup>2</sup>)</i>	628.62****	1156.6****	806.64****

1) The result of year dummies is not present in the table

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01, \*\*\*\* p < 0.001

## **CHAPTER 5. CONCLUSION**

Based on the theoretical importance of organizational culture in generating performance, previous studies have attempted to empirically test the effect of organizational culture on organizational performance. However, empirical evidence for revealing the organizational culture-performance relationship remains fragmented and inconclusive (Hartnell et al., 2011). There is still a lack of theoretical development on how different organizational cultures influence culture-specific performance. Furthermore, literature overlooked variances across industries and did not consider the industry-specific contexts (O'Reilly et al., 2014). Methodologically, previous studies suffered from small sampling issues (O'Reilly et al., 2014) and were limited to cross-sectional studies, which, in return, questions the generalizability of the result.

To make up for the shortcomings in prior literature, this study was intended to examine the relationship between organizational culture and performance in the restaurant industry with specific focus on: 1) providing a logical discussion of linking organizational cultures with specific performance; 2) incorporating industry-specific contexts such as service orientation, franchising, and recession into the organizational culture-performance relationship; and 3) employing large-sampled panel estimation using content analysis. The findings of this study contribute to a better understanding of the relationship between organizational culture and performance in the restaurant industry and the effect of industry-specific factors on the culture-performance relationship. Table 5.1 displays the summary of the hypotheses testing.

### **5.1 Summary of findings**

#### **5.1.1 Organizational culture and performance**

Overall, this study found that different organizational culture influences restaurant performance differently. Specifically, the result of this study reveals that the clan culture immediately increases restaurant productivity. This implies that since values of clan culture enhance individual commitment (Dwyer et al., 2003), clan culture increases productivity by increasing employees' sense of ownership and responsibilities (Denison & Mishra, 1995).

In terms of adhocracy and firm performance, this study found that adhocracy culture decreases restaurant growth. The result suggests that since one of focal objectives of restaurant

operation is to provide consistent and standard quality of products and services, organizational culture that reinforces risk-taking and creativity in the operation is not suitable for firm growth.

This study also examined the relationship between hierarchy culture and restaurant performance. The result of study reveals that hierarchy immediately decreases restaurant productivity. The result implies that since productivity is a function of input and output, encouraging only hierarchy culture is not adequate to enhance productivity.

### **5.1.2 Moderating effect of tangible service orientation**

Another objective of this study was to examine the moderating role of tangible service orientation on the organizational culture-performance relationship. The result of this study indicates that tangible service orientation negatively moderates the clan-profitability relationship. This suggests that since tangible service orientation and clan culture are different in terms of organization structure (i.e., tangible service orientation—control / clan culture—flexible), its effect is limited in imposing synergetic influence on the clan-profitability relationship.

In terms of the relationship between adhocracy culture and performance, this study found that tangible service orientation negatively moderates the adhocracy-growth relationship. Consistent with the earlier result on the clan-performance relationship, this implies that the difference between tangible service orientation and adhocracy culture imposes an adverse effect on the adhocracy-profitability relationship. Meanwhile, this study further found that tangible service orientation positively moderates the adhocracy-profitability relationship. This result suggests that although tangible service orientation and adhocracy culture are different, hierarchy-aspect of tangible service orientation may have a substantial positive influence on the adhocracy-profitability relationship.

As for the hierarchy-performance relationship, this study found that tangible service orientation positively moderates both hierarchy-profitability and hierarchy-productivity relationships. These results confirm the similarity between tangible service orientation and hierarchy culture, which resulted in a synergy that imposed a positive moderating effect on the hierarchy-performance relationship.

Consistently, this study found that tangible service orientation positively moderates the relationship between market culture and restaurant growth. This also confirms the notion that a synergetic effect is generated from the similarity between tangible service orientation and market

culture. However, this study further indicated that tangible service orientation negatively moderates the market-productivity relationship. This result implies that although tangible service orientation and market culture are well aligned and create a synergy, the synergetic effect headed in an undesirable direction because of an initial negative effect of the market culture on productivity.

### **5.1.3 Moderating effect of franchising**

Another objective of this study was to examine the moderating role of franchising on the relationship between organizational culture and performance. The result of this study indicated that franchising positively moderates the adhocracy- (market-)growth relationship. This finding confirms that there is an operational benefit of franchising in terms of firm growth that imposes substantially positive moderating effect on the organization culture-growth relationship.

In terms of the relationship between organizational culture and profitability, this study found that franchising positively moderates the clan-profitability relationship. This implies that since franchising enables restaurants to improve profitability through bulk purchases (Emerson, 1990; Michael, 2003) and stable cash flow (Koh et al., 2015), franchising mitigates the adverse effect of clan culture on the profitability. Meanwhile this study also found that franchising negatively moderates the adhocracy- and hierarchy-profitability relationships. Considering that process innovation is relatively weaker for large firms (Mallapragada & Srinivasan, 2016), this suggests that franchising could work as a financial distress because of initial sunk cost related to franchising (Mathewson & Winter, 1985); therefore it negatively moderates the organizational culture-profitability relationship.

As for the organizational culture-productivity relationship, this study found that franchising positively moderates the clan-productivity relationship while it negatively moderates the market-productivity relationship. These results suggest that although franchising inherently mitigates the productivity decline associated with expansion, its effect is not strong enough to impose a substantially positive effect on the market-productivity relationship.

### **5.1.4 Moderating effect of recession**

The final objective of this study was to examine the moderating role of recession on the relationship between organizational culture and performance. The result of this study indicates

that recession positively moderates the adhocracy- (hierarchy-) profitability relationships. This finding confirms the notion that recession motivates employees in a fear of losing a job and causes them to better perform. This in return leads to a positive moderating effect of franchising on the organizational culture-profitability relationship. A similar result was also found in the hierarchy-productivity relationship, suggesting that because of its motivating effect, franchising positively moderates the hierarchy-productivity relationship.

Table 5. 1 Summary of testing hypotheses

No.	Hypothesis	Result
H1-1	<i>Clan culture has a negative influence on restaurant profitability.</i>	○
H1-2	<i>Clan culture has a positive influence on restaurant productivity.</i>	○
H2-1	<i>Adhocracy culture has a positive influence on restaurant growth.</i>	×
H2-2	<i>Adhocracy culture has a negative influence on restaurant profitability.</i>	×
H3-1	<i>Hierarchy culture has a positive influence on restaurant profitability.</i>	×
H3-2	<i>Hierarchy culture has a positive influence on restaurant productivity.</i>	×
H4-1	<i>Market culture has a positive influence on restaurant growth.</i>	×
H4-2	<i>Market culture has a negative influence on restaurant productivity.</i>	×
H5-1	<i>Tangible service orientation negatively moderates the effect of clan culture on restaurant performance.</i>	△
H5-2	<i>Tangible service orientation negatively moderates the effect of adhocracy culture on restaurant performance.</i>	△
H5-3	<i>Tangible service orientation positively moderates the effect of hierarchy culture on restaurant performance.</i>	○
H5-4	<i>Tangible service orientation positively moderates the effect of market culture on restaurant performance.</i>	△
H6-1	<i>Franchising positively moderates the effect of organizational culture on restaurant growth</i>	○
H6-2	<i>Franchising positively moderates the effect of organizational culture on restaurant profitability.</i>	△
H6-3	<i>Franchising positively moderates the effect of organizational culture on restaurant productivity.</i>	△
H7-1	<i>Recession negatively moderates the effect of organizational culture on restaurant growth.</i>	×
H7-2	<i>Recession positively moderates the effect of organizational culture on restaurant profitability.</i>	△
H7-3	<i>Recession positively moderates the effect of organizational culture on restaurant productivity.</i>	△

\* ○ indicates that hypothesis is supported; △ denotes that hypothesis is partially supported; and × indicates that hypothesis is not supported.

## 5.2 Contribution and implication

This study provides important theoretical implications. First, this study extends the organizational culture literature by providing a logical discussion about how each organizational culture is related to specific firm performance indicators. Although the relationship between organizational culture and performance was extensively studied in the past (Tepeci, 2004), a logical discussion linking organizational culture and performance in previous studies is still limited, largely neglected to relate organizational culture with specific performance. In this respect, this study was one of the pioneering studies to offer in-depth discussion of how each organizational culture defined by the CVF influences specific firm performance.

Second, this study added to the organizational culture studies in the field of hospitality and tourism management. Despite the increasing importance of organizational culture in achieving organizational performance, there have been limited efforts to fully understand the culture-performance relationship in the hospitality and tourism management field. Previous studies were largely focused on case studies (e.g., Dwyer et al., 2003; Kemp & Dwyer, 2001), developing industry-specific measures of organizational culture (e.g., Davidson et al., 2001; Tepeci & Bartlett, 2002), and cross-industry comparisons (Gray et al., 2000). Although these works were valuable in fulfilling their objectives, they offer limited insights about the relationship between organizational culture and performance in the restaurant industry. In this regard, this study added to the hospitality literature by providing theoretical discussion about how organizational culture is related to performance and by offering empirical evidence that reveals the performance implication of the organizational culture.

Third, this study contributes to the literature by using alternative organizational culture measurements based on text analysis of firms' 10K filings. By leveraging corporate disclosure information represented in publicly archival data, this study mitigated the limitation of traditional interview and questionnaire methods in assessing organizational culture. While conventional methods were useful for collecting in-depth information from a small sample (Schwab, 2005), they were unable to establish generalizability (e.g., Fairfield-Sonn, 1993; O'Regan & Lehmann, 2008), and were largely limited to descriptive analytical analysis (e.g., Beadles et al., 1995; Sackmann, Eggenhofer-Rehart, & Friesl, 2009; Gordon & Di Tomaso, 1992). This study tackled these shortcomings by using text analysis. Specifically, this study exploited a large corpus of publicly archival data for firms, which overcame severe data limitation issues that were related to

research design. Another challenge of traditional measurement is that they were subject to researcher intervention. However, this study used text analysis, which is less prone to researcher bias (Neuman, 1994) in measuring organizational culture. This paper was one of the pioneering studies that employed alternative measures to capture organizational culture, and therefore added to the literature by proposing alternative measurements of organizational culture.

Furthermore, this study added to the literature by relating corporate-level organizational culture to firm performance. While it was suggested that firm disclosures are susceptible to impression management (Li, 2010; Loughran & McDonald, 2016), that individual attitudes and behaviors tend to be influenced by corporate image (Riordan, Gatewood, & Bill, 1997) suggests that the corporate identity a firm wanted to project through public disclosures may represent another valuable source for organizational culture. In this respect, this study captured the organizational culture that would not have been recognized using traditional tools. Future studies could extend the approach by analyzing the relationship between organizational cultures collected from employees, firms, and perceived by consumers.

This study also offers insightful implications for industry professionals. First, this study found that, except for clan culture-product relationship, all other proposed relationships between organizational culture and restaurant performance (H1-H4) turned out insignificant or negatively related. These results suggest that it is difficult for a single organizational culture to enhance restaurant performance. That is, organizational culture should be combined with other aspects of operation to yield a meaningful outcome. Therefore, it is recommended that in order for a firm to improve performance, industry practitioners should consider combining their business contexts, strategy, or operation types with organizational culture to yield greater performance.

Second, this study also found that most of the significant relationships in this study lasted only one year. This means that the effectiveness of reinforcing any organizational culture is only temporal. Therefore, if restaurant managers want to disseminate new organizational culture to motivate employees, it is recommended that they continuously execute a corporate-wide campaign or training program to continuously gain the benefits of organizational culture. Furthermore, this study found that many of the significant relationships found in this study were a one-year lagged effect. This means that it generally takes at least one year for a firm to gain tangible outcomes, implying that it is a long process from reinforcing certain culture to gaining benefit from the culture. Therefore, it is advised that restaurant managers should take a long-term

perspective when considering changes in their organizational culture. For instance, it is suggested that CEOs wait for two years to have a positive profitability gain from adhocracy and hierarchy cultures during recession, while it takes one year (two years) for clan culture (market culture) to result in greater productivity (firm growth) under franchising mode.

Third, this study found that tangible service orientation positively moderates both the hierarchy-profitability and the hierarchy-productivity relationships. This result implies that since tangible service orientation prioritizes producing consistent quality of product, it creates a synergetic effect with hierarchy culture and works by emphasizing adherence to rules and process within the operation, resulting in greater profitability and productivity. Meanwhile, this study also found that tangible service orientation only negative moderates the clan culture-profitability relationship, suggesting that tangible service orientation and clan culture are incompatible with each other in producing better performance. Therefore, it is advised that managers of restaurant firms that concentrate on tangible service should encourage certain levels of hierarchy culture to maximize the positive effect of tangible service orientation while strictly avoiding conducting clan culture within the operation.

Fourth, this study found that franchising positively moderates the clan-profitability relationship and the clan-productivity relationship, while it negatively moderates the hierarchy-profitability relationship. This result implies that the operational and economic benefit of franchising could be passed on to clan culture by maximizing the positive clan-productivity relationship while offsetting the clan-profitability relationship. Meanwhile, the negative moderating effect of franchising on the hierarchy-profitability relationship suggests that excessive emphasis on compliance and control under the franchising system impedes firms from gaining higher profitability. This further implies that a certain level of adjustment or localization may be required to enhance franchise restaurant profitability under hierarchy culture. Therefore, it is advised that managers of franchise restaurant firms consider implementing clan culture to maximize the positive benefit that franchising has on the restaurant operation.

Last, this study found that recession positively moderates adhocracy- and hierarchy-profitability relationships as well as hierarchy-productivity relationship. This implies that economic recession imposes a substantial impact on employee behaviors and attitudes and highly motivates them during the recession. As a result, recession could further maximize the positive effect of hierarchy culture on restaurant performance. This further suggests that restaurant

managers should consider employing hierarchy culture during the recession to produce consistent product and services that eventually lead to better performance.

### **5.3 Limitation and future studies**

This study is not free from limitations, and future studies are needed to offer further generalizability of the findings. First, this study did not consider the effect of having two or more cultures on restaurant performance. Although tangible service orientation covered this issue to a certain extent by linking tangible service orientation with organizational cultures, it still remains unclear how different cultures are combined within a single organization and what combination of cultures creates the most optimal synergetic chemistry that could improve organizational performance. Therefore, the result of this study should be cautiously interpreted, and the findings may not be applied to multicultural contexts. In this respect, it would be more meaningful for future research to study the effect of combined cultures on performance and to offer insight into what combination of cultures is more optimal in improving specific performance indicators.

Furthermore, this study did not consider the effect of potential multicultural contexts among multi-brand and/or franchise restaurant firms. Considering that each brand works as an independent business division (or subsidiary organization) within a parent firm, it is still unexplored how differences in organizational culture between a sub-brand (franchised) organization and a parent (franchisor) organization impose influence on overall restaurant performance. Therefore, this calls for future studies to explore the effect of organizational culture with consideration of multicultural contexts specific to the restaurant industry.

In relation to the discussion above, there is another limitation that this study did not distinguish restaurant firms by franchisor (i.e. Papa John's International) and franchisee companies (i.e. PJ America, Inc). Although this study was based on the notion that there should be a cultural fit between franchisor and franchisees to foster knowledge sharing (Cumberland & Githens, 2012), it is still possible that there are certain cultural differences between franchisor and franchisees that may influence the effect of franchisors' corporate-level culture on the performance. Therefore, it would be better for future studies to distinguish franchisors from franchisee companies in the sample or to exclude franchisee companies to better understand the effect of corporate-level organizational culture on restaurant performance.

Second, based on the notion that the organizational culture that the organization wanted to project in the 10K reflects actual culture to a certain extent, this study used 10K documents to capture organizational culture. However, it is possible that 10K-projected culture may be different from actual culture embedded in the operation. This could be more substantial for restaurant firms whose operation is geographically dispersed. This means that the findings of this study may not be applicable to the unit context. Therefore, it would be insightful for future studies to examine the effect of unit-level culture on performance and to link the relationship between corporate-level culture and unit-level culture. Furthermore, this study used the 10K document to capture organizational culture of publicly traded restaurant firms. This means that the findings of this study may not be applicable to private restaurant firms. Therefore, it would be more meaningful to include private firms to extend the generalizability of the findings in the future.

Third, this study utilized text analysis to estimate organizational cultures from firms' annual filings (10K). Notwithstanding its efficiency and effectiveness in measuring organizational culture in a larger frame, it suffers from the potential limitation of ignoring the broad context of texts processed. For instance, a bag-of-words-based text mining is subject to misclassification of words by taking words out of context from their intended meaning (Andreou, Harris, & Phillip, 2019). Moreover, using 10K filings is also vulnerable to impression management (Li, 2010; Loughran & McDonald, 2016). Although impression management may lead to desired behavior defined by the image projected by the organization (e.g., Yun et al., 2007, for the discussion of impression management and corporate citizenship behavior), impression management is still a potential limitation in understanding organizational culture. Therefore, future studies should carefully consider contextual word combinations to mitigate limitation related to text analysis and to extend data source (i.e., Great Place to Work, Glassdoor, employee interview, questionnaires, etc.) to mitigate inherent limitations related to 10Ks.

Last, this study examined the effect of organizational culture on restaurant performance with consideration of service orientation, franchising, and economic condition. However, there are more industry-specific contexts that may impose a substantial influence on the organizational culture-performance relationship such as restaurant types (full-service vs. quick-service restaurants), governance structure (institutional vs. family ownership), and the like. Therefore,

future studies should consider incorporating different contexts into the culture-performance relationship to provide a more meaningful implication to the industry.

## APPENDIX 1. LIST OF SAMPLE RESTAURANT FIRMS

Company Name	Rest Type	Operation Mode	Service orientation
AMARILLO MESQUITE GRILL INC	FSR	Non-Franchise	Tangible Service
AMERICAN RESTAURANT GROUP	FSR	Non-Franchise	Intangible Service
AMERICAN RESTAURANT PRTNS-LP	FSR	Non-Franchise	Intangible Service
AMERIKING INC	QSR	Non-Franchise	Tangible Service
APPLEBEES INTL INC	FSR	Franchise	Tangible Service
ARK RESTAURANTS CORP	FSR	Franchise	Tangible Service
AVADO BRANDS INC	FSR	Non-Franchise	Tangible Service
BACK YARD BURGERS INC	QSR	Franchise	Tangible Service
BERTUCCI'S CORP	FSR	Non-Franchise	Intangible Service
BIGLARI HOLDINGS INC	FSR	Franchise	Tangible Service
BJ'S RESTAURANTS INC	FSR	Franchise	Tangible Service
BLOOMIN' BRANDS INC	FSR	Franchise	Tangible Service
BOJANGLES' INC	QSR	Franchise	Intangible Service
BOSTON RESTAURANT ASSOC INC	QSR	Franchise	Tangible Service
BRAVO BRIO RESTAURANT GP INC	FSR	Non-Franchise	Intangible Service
BRAZIL FAST FOOD CORP	QSR	Franchise	Tangible Service
BRIAZZ INC	FSR	Non-Franchise	Tangible Service
BRINKER INTL INC	FSR	Franchise	Tangible Service
BUCA INC	FSR	Non-Franchise	Tangible Service
BUFFALO WILD WINGS INC	FSR	Franchise	Tangible Service
BUFFETS HOLDINGS INC	QSR	Franchise	Intangible Service
CALIFORNIA BEACH RESTAURANT	FSR	Non-Franchise	Tangible Service
CALIFORNIA PIZZA KITCHEN INC	FSR	Franchise	Intangible Service
CARIBOU COFFEE CO	QSR	Franchise	Intangible Service
CARROLS CORP	QSR	Franchise	Tangible Service
CARROLS RESTAURANT GROUP INC	QSR	Non-Franchise	Tangible Service
CEC ENTERTAINMENT INC	FSR	Franchise	Tangible Service
CHAMPPS ENTMT INC	FSR	Franchise	Intangible Service
CHECKERS DRIVE-IN RESTAURANT	QSR	Franchise	Tangible Service
CHEESECAKE FACTORY INC	FSR	Non-Franchise	Tangible Service
CHEFS INTERNATIONAL INC	FSR	Non-Franchise	Tangible Service
CHIPOTLE MEXICAN GRILL INC	QSR	Franchise	Intangible Service
CHUY'S HOLDINGS INC	FSR	Non-Franchise	Tangible Service
CKE RESTAURANTS INC	QSR	Franchise	Tangible Service
COOKER RESTAURANT/OH	FSR	Non-Franchise	Tangible Service
COSI INC	FSR	Franchise	Intangible Service
CRACKER BARREL OLD CTRY STOR	FSR	Franchise	Tangible Service
CUCOS INC	FSR	Franchise	Intangible Service
DARDEN RESTAURANTS INC	FSR	Franchise	Tangible Service

Company Name	Rest Type	Operation Mode	Service orientation
DEL FRISCOS RESTURNT GRP INC	FSR	Non-Franchise	Intangible Service
DEL TACO RESTAURANTS INC	QSR	Franchise	Intangible Service
DENNYS CORP	FSR	Franchise	Tangible Service
DIVERSIFIED RESTAURANT HLDGS	FSR	Franchise	Tangible Service
DOMINO'S PIZZA INC	FSR	Franchise	Intangible Service
EATERIES INC	FSR	Franchise	Tangible Service
EL POLLO LOCO HOLDINGS INC	FSR	Franchise	Intangible Service
ELEPHANT & CASTLE GROUP INC	FSR	Non-Franchise	Tangible Service
ELMER'S RESTAURANTS INC	FSR	Franchise	Tangible Service
FAMOUS DAVES OF AMERICA INC	FSR	Franchise	Tangible Service
FIESTA RESTAURANT GROUP INC	FSR	Franchise	Intangible Service
FLANIGANS ENTERPRISES INC	FSR	Franchise	Tangible Service
FOGO DE CHAO INC	FSR	Franchise	Intangible Service
FOX & HOUND RESTAURANT GROUP	FSR	Non-Franchise	Intangible Service
FRESH CHOICE INC	FSR	Non-Franchise	Tangible Service
FRIENDLY ICE CREAM CORP	FSR	Franchise	Tangible Service
FRISCH'S RESTAURANTS INC	FSR	Franchise	Tangible Service
GARDEN FRESH RESTAURANT CORP	QSR	Non-Franchise	Intangible Service
GIGGLES N' HUGS INC	FSR	Non-Franchise	Tangible Service
GOOD TIMES RESTAURANTS INC	QSR	Franchise	Tangible Service
GRANITE CITY FOOD & BREWERY	FSR	Non-Franchise	Tangible Service
GRILL CONCEPTS INC	FSR	Franchise	Intangible Service
HABIT RESTAURANTS INC (THE)	FSR	Franchise	Intangible Service
ICH CORP	QSR	Non-Franchise	Intangible Service
IGNITE RESTAURANT GROUP INC	FSR	Franchise	Intangible Service
IL FORNAIO AMERICA CORP	FSR	Non-Franchise	Intangible Service
J. ALEXANDER'S HOLDINGS INC	FSR	Non-Franchise	Intangible Service
JACK IN THE BOX INC	QSR	Franchise	Tangible Service
JERRYS FAMOUS DELI INC	FSR	Non-Franchise	Intangible Service
KONA GRILL INC	FSR	Franchise	Tangible Service
KRYSTAL CO	QSR	Franchise	Tangible Service
LONE STAR STEAKHOUSE SALOON	FSR	Non-Franchise	Tangible Service
LRI HOLDINGS INC	FSR	Franchise	Intangible Service
MAIN STREET RESTAURANT GROUP	FSR	Non-Franchise	Tangible Service
MAX & ERMAS RESTAURANTS	FSR	Franchise	Tangible Service
MCCORMICK & SCHMICKS SEAFOOD	FSR	Non-Franchise	Tangible Service
MCDONALD'S CORP	QSR	Franchise	Tangible Service
MERITAGE HOSPITALITY GROUP	QSR	Non-Franchise	Tangible Service
MEXICAN RESTAURANTS INC	FSR	Franchise	Tangible Service
MORTONS RESTAURANT GROUP INC	FSR	Non-Franchise	Tangible Service

Company Name	Rest Type	Operation Mode	Service orientation
NOODLES & CO	QSR	Franchise	Intangible Service
O'CHARLEY'S INC	FSR	Franchise	Tangible Service
OSI RESTAURANT PARTNERS INC	FSR	Franchise	Tangible Service
P F CHANGS CHINA BISTRO INC	FSR	Franchise	Tangible Service
PANCHOS MEXICAN BUFFET INC	FSR	Non-Franchise	Tangible Service
PANERA BREAD CO	QSR	Franchise	Tangible Service
PAPA JOHNS INTERNATIONAL INC	QSR	Franchise	Tangible Service
PAPA MURPHY'S HOLDINGS INC	QSR	Franchise	Intangible Service
PHOENIX RESTAURANT GROUP INC	FSR	Non-Franchise	Intangible Service
PJ AMERICA INC	QSR	Non-Franchise	Tangible Service
PLANET HOLLYWOOD INTL INC	FSR	Franchise	Intangible Service
POTBELLY CORP	QSR	Franchise	Intangible Service
PRANDIUM INC	FSR	Franchise	Intangible Service
QUALITY DINING INC	FSR	Non-Franchise	Tangible Service
RARE HOSPITALITY INTL INC	FSR	Franchise	Tangible Service
RED ROBIN GOURMET BURGERS	FSR	Franchise	Intangible Service
RESTAURANT BRANDS INTL INC	QSR	Franchise	Intangible Service
RESTAURANT BRANDS INTL LP	QSR	Franchise	Intangible Service
ROADHOUSE GRILL INC	FSR	Franchise	Intangible Service
ROMACORP INC	FSR	Franchise	Intangible Service
RUBIO'S RESTAURANTS INC	FSR	Franchise	Tangible Service
RUBY TUESDAY INC	FSR	Franchise	Tangible Service
RUTHS HOSPITALITY GROUP INC	FSR	Franchise	Tangible Service
RYAN'S RESTAURANT GROUP INC	FSR	Franchise	Tangible Service
SANTA BARBARA RESTAURANT GRP	QSR	Franchise	Tangible Service
SBARRO INC	QSR	Franchise	Intangible Service
SCHLOTZSKY'S INC	QSR	Franchise	Tangible Service
SHAKE SHACK INC	QSR	Franchise	Intangible Service
SHELLS SEAFOOD RESTRNTS INC	FSR	Franchise	Intangible Service
SILVER DINER INC	FSR	Non-Franchise	Tangible Service
SIXX HOLDINGS INC	FSR	Non-Franchise	Tangible Service
SMITH & WOLLENSKY RSTRNT GRP	FSR	Non-Franchise	Tangible Service
SONIC CORP	QSR	Franchise	Tangible Service
SOUTHERN CONCEPTS RESTAURANT	FSR	Non-Franchise	Intangible Service
STAR BUFFET INC	FSR	Franchise	Tangible Service
STARBUCKS CORP	QSR	Franchise	Tangible Service
STEAKHOUSE PARTNERS INC	FSR	Non-Franchise	Intangible Service
TEXAS ROADHOUSE INC	FSR	Franchise	Tangible Service
TIM HORTONS INC	QSR	Franchise	Tangible Service
TUMBLEWEED INC	FSR	Franchise	Tangible Service

Company Name	Rest Type	Operation Mode	Service orientation
U-SWIRL INC	FSR	Franchise	Tangible Service
UNO RESTAURANT CORP	FSR	Franchise	Tangible Service
VICORP RESTAURANTS INC	FSR	Franchise	Intangible Service
WALL STREET DELI INC	QSR	Franchise	Tangible Service
WENDY'S CO	FSR	Franchise	Tangible Service
WENDY'S INTERNATIONAL INC	QSR	Franchise	Tangible Service
WINGSTOP INC	FSR	Franchise	Intangible Service
WORLDWIDE RESTAURANT CONCEPT	FSR	Franchise	Tangible Service
YUM BRANDS INC	QSR	Franchise	Tangible Service
YUM CHINA HOLDINGS INC	FSR	Franchise	Intangible Service
ZOE'S KITCHEN INC	FSR	Franchise	Intangible Service

## APPENDIX 2. LIST OF KEYWORDS FOR SERVICE ORIENTATION

Type	Bag of Words
Intangible Service Orientation (350)	<p>abet, able, absent, absorb, accomplish, accord, accurate, achieve, act, addressing, affecting, agreeably, aid, amicable, anticipation, assist, assuage, assure, attention, authentic, awesome, backstop, banner, beautiful, bemuse, benevolence, blistering, blue-chip, blue-ribbon, boss, brag, brave bully, breakneck, breathless, bring off, brisk, broad-mind, broad-minded, buddy-buddy, bumper, busy, capable, capital, care, careful, carry off, carry out, catch up, celerity, charming, choice, chops, chummy, civil, classic, client, close, closeness, coherent, collegial, commerce, commit, companion, compass, compatible, competent, comradely, concentration, concordant, condition, confident, conformable, congruent, congruous, conscientious, consistent, consonant, contemplation, contend, content, contentment, cool, coping, cordial, corking, correspondent, courteous, courtesy, crackerjack, cracking, customer, dandy, deal, dealing, delicious, delight, demand, demonstrate, depend, divine, dizzy, dream, dreamily, dynamic, educate, effect, efficient, effort, elbow grease, eloquent, emotion, enchant, engage, engross, engrossment, enjoy, enjoyably, enjoyment, enthrall, enthrallment, enwrap, equal, erudite, erudition, essential, exact, excellent, excite, execute, exertion, expectance, expenditure, experience, expert, expressive, fabulous, faithful, famous, fantabulous, fascinate, fast, fastness, favor, feeling, felicitous, fetching, fielding, fit, fleet, fleet-footed, fleetness, flying, follow through, friendly, fruitful, fulfill, galloping, genial, genteel, gladness, glorious, good, grace, gracious, grappling, gratification, great, grip, guest, hacking, hail-fellow, handle, handling, hang, happy, happiness, harmonious, haste, heartfelt, hearty, heed, heedfulness, help, hinge, hot, hurry, immediate, immerse, impactful, impressive, indulgence, inspirational, interaction, intercourse, interest, interrelationship, intrigue, involve, kind, know-how, knowledge, labor, lack, learn, learning, light, literate, lore, manage, maneuver, manipulate, manner, mate, meaning, mercy, meticulous, moving, moxie, must-haves, musts, necessary, necessities, necessities, need, needfulness, needful, needs, negotiate, neighborly, nice, nippy, nonconflicting, occupy, open, open-mind, operative, opportune, pains, palatable, palsy, palsy-walsy, passionate, patron, perform, perpetrate, playing, pleasant, pleasing, pleasurable, pleasure, poignant, polite, potent, precise, prettily, pro, productive, professional, proficiency, prompt, prosecute, prospect, provoking, pull off, punctual, put through, qualified, quench, quick, rapid, rapid-fire, rattling, reactive, receptive, relation, relish, requirement, requisites, responsive, ride, right, rousing, safe, sate, satiate, satisfy, savvy, scholarship, science, scrupulous, seasonable, secure, self-asserting, self-assured, self-confident, sensitive, serve, significant, sincere, sine qua non, skill, slake, snappy, speed, speediness, speedy, splendidly, splitting, stimulate, stimulating, stir, strict, suitable, support, sweat, sweetly, swift, swiftness, swimmingly, swinging, taking, timely, touching,</p>

Type	Bag of Words
Intangible Service Orientation	treat, treating, trouble, turn, unfeign, use, velocity, veracious, want, warm, warmhearted, welcome, well-bred, well-timed, while, whirlwind, willing, winningly, wisdom, work
Tangible Service Orientation (350)	accurate, aesthetic, affordable, aliveness, alleviation, alluring, alternative, allure, ambience, ambrosial, american, antiseptic, apparatus, appealing, appearance, appetizing, appointment, area, aroma, arrangement, assortment, atmosphere, attractive, aura, awareness, bagel, bargain-basement, beauteous, beautiful, bewitching, blaze, blueprint, bodily, bonny, bouncing, brand-new, brazilian, bread, breakfast, brimming, budget, building, burger, burrito, bursting, cabinetwork, cake, captivating, card, carnal, cast, chaste, cheap, chicken, chinese, chintzy, chockablock, chock-full, choice, chow, chuck, clean, coffee, color, comely, comfort, complex, component, configuration, conformation, consciousness, consolation, constituent, contemporary, cookery, corporeal, correct, costume, crisp, crowded, cuisine, current, dainty, decor, decoration, delectable, delicious, depict, design, dinner, discretion, dish, dissert, diverseness, diversity, drag, dress, druthers, ease, eats, edibles, edifice, effortless, element, enchanting, engaging, entrancing, equipment, establishment, exact, extant, exterior, external, facile, factor, fair, fare, fascinating, fee, feeding, fetching, field, figure, filled, fit, flatware, flavor, fleshly, fluent, fluid, foodstuff, format, fragrant, french, fresh, full, furnishing, furniture, garb, gear, glamorous, gleam, glow, good, gorgeous, gown, greek, groomed, ground plan, grub, guise, hale, halo, handsome, hardware, healthy, hearty, help, heterogeneous, hot, hue, ice cream, illumination, image, immaculate, immediate, incandescence, inexpensive, ingredient, installation, instant, italian, item, jammed, japanese, juicy, kempt, kit, knockout, korean, layout, liberty, light, likely, lovely, lovesome, luminescence, lunch, luring, luscious, lush, magnetic, manifoldness, manpower, material, meat, member, menu, mexican, mindfulness, mint, miscellaneous, modern, mood, mouthwatering, movable, multifariousness, multiplicity, music, newfangled, new-fashioned, nimbus, ocular, odor, ongoing, ontarget, optic, optical, option, orderly, outfit, outside, outward, packed, painless, palatable, partaking, patina, pattern, perfumed, personnel, picked up, plan, plate, platter, pool, pork, portray, precise, preference, preparation, present, pretty, price, price tag, prim, pristine, product, program, project, proper, provender, provision, radiance, raiment, rate, ravishing, readiness, ready, reasonable, receptiveness, redolent, refreshing, release, relief, represent, right, robust, royal, sandwich, savory, scene, scented, scheme, scrumptious, seat, seductive, seemly, selection, setout, setup, shade, shake, shine, sight, silverware, simple, smell, smooth, smug, snap, snug, soft, solace, somatic, sound, spotless, staff, stainless, state-of-art, steak, strategy, structure, succulent, sweet, system, table, tableware, taco, tasteful, tasty, temperature, teppanyaki, tidied, tidy, tincture, tinge, tint, trim, tofu, tone, toothy, ultramodern, uncluttered, unsoiled, unstained, unsullied, up-to-date, utensil, valuation, value, variety, various, vegetable, vittles, volition, whole, wholesome, worth, yummy, zone,

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## VITA

### EDUCATION

Ph.D. Hospitality and Tourism Management, Purdue University, West Lafayette, IN, August 2020

Title: Organizational Culture and Firm Performance: Evidence from the Restaurant Industry

Academic advisor: SooCheong (Shawn) Jang, PhD

M.S. Hospitality and Tourism Management, Purdue University, West Lafayette, IN, August 2010

Title: Ownership Structure and Firm Investment: An Examination of Hotel Firms

Academic advisor: SooCheong (Shawn) Jang, PhD

B.A. Tourism, Hanyang University, Seoul, Korea, February 2007

Graduated *Summa Cum Laude*

## **PROFESSIONAL EXPERIENCE**

### **Teaching Experience**

Graduate Instructor, Purdue University, Spring 2018 – Fall 2019

- HTM241: Managerial Accounting and Financial Management in Hospitality Operation
- HTM503: Business Statistics and Quantitative Analysis (Online MS Program)

Teaching Assistant, Purdue University, Fall 2016 – Spring 2018

- HTM141: Financial Accounting for the Service Industries
- HTM241: Managerial Accounting and Financial Management in Hospitality Operation

### **Industry Experience**

Event Organizer, Purdue University, January 2017 – December 2017

- In charge of organizing/launching a graduate school recruiting fair in Non-STEMs:  
The 2017 Midwest Graduate & Professional School Summit.

Manager, Business Planning Team (Food Service Division), Samsung Everland (Samsung Group), September 2010 – July 2015

- Planned corporate-level growth strategies, Controlled corporate-level investment.

In-house Coordinator (Intern), Marketing Team, Hotel Shilla, July 2007 – December 2007

- Coordinated in-house arrangement for room/banquet operations.

Sergeant, The Office of Adjutant General, The 3<sup>rd</sup> Infantry Division HQ (ROK Army),  
September 2004 – September 2006

- Human Resource tasks (Non-Com Officer).

## **HONORS/AWARDS**

Outstanding PhD Student Award, School of Hospitality and Tourism Management, Purdue University, April 2019

Outstanding Graduate Teaching Award, School of Hospitality and Tourism Management, Purdue University, April 2019

Best Paper Award, 14<sup>th</sup> Asia Pacific CHRIE Conference 2016, Bangkok, Thailand, May 2016

Employee of Month, Samsung Everland, Seoul, Korea, November 2012

Summa Cum Laude, Hanyang University, Seoul, Korea, February 2007

## PUBLICATIONS

- Kim, H., & Jang, S. (2020). Employee compensation and firm performance: Evidence from the restaurant industry. *International Journal of Hospitality Management*, 88.
- Kim, H., & Jang, S. (2020). CEO overconfidence and firm performance: The moderating effect of franchising in the restaurant industry. *Cornell Hospitality Quarterly*.
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- Kim, H., & Jang, S. (2018). Does hotel ownership structure influence capital expenditure?. *Cornell Hospitality Quarterly*, 59(4), 325-338.
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