

Organisational Culture and Competitive Advantage: The Role of Open Innovation Practices of Restaurants in Jos North

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Abstract

Most firms quit their industry in the long run as a result of fierce application of competitive advantage and this study intended to ascertain the extent open innovation can mediate between organisational culture and competitive advantage of firms in a bid to sustain more firms' existence. A sample of 310 restaurants was surveyed while AMOS package was used to analyse the data. It was discovered that organisational culture has a positive and significant relationship with competitive advantage of firms. The extent of the effect of open innovation practices on competitive advantage of firms was positive and significant. Organisational culture also had positive and significant relationship with open innovation. Open innovation partially mediated between organisational culture and competitive advantage. Implication of these findings is that organisational culture and open innovation are strong force of competitive advantage. The study recommended that firms in the hospitality industry should attempt to practise open innovation at a proportion that can constitute good competitive-collaboration strategies (what to take at 85% and what to give at 15%) in the mediation process. Restaurants should ensure their combination of organisational culture and open innovation practices attained 83% contribution for it to produce good competitive advantage in the industry. Organisations should begin by forming short network pairing or blocs and subsequently expand it according to the benefit of open innovation.

Keywords:

Organisational culture, Inbound and Outbound, Open innovation, Competitive advantage.

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Background to the Study

Restaurant businesses have continued to remain one of the largest and gainful private sectors of employers with a projected increase of 1 million jobs by the year 2020 in the developed world(www.restaurant.org). According to Parsa, Gregory and Terry (2010), prepared food and ready to eat food is a new wind of competition blowing from the western world that has affected food service in earnest. Even the Quick Service Restaurants (QSRs) are fast losing customers' appeal from what it uses to be (Aroyole, 2017), therefore there is the need for the sub-sector to be competitive. Competition is a dynamic force that has become inevitable in the free enterprise system. An understanding of the secret and application of competitive advantage enables firms capture a greater share in the market place. This is often made possible by the nature of resources available for their exploitation. Competition is the best virtue for allocating resources in the free market (Stucke, 2013). *According to Barney (1991), organisations that own strategic resources have important competitive advantages over organisations that do not. A resource is strategic to the extent that it is valuable, rare, difficult to imitate, and non-substitutable as Porter (1985) founded this on cost and differentiation advantages or by crafting either of the niches.*

Porter goes on to opine that to survive or lead in the market place, a firm must own a resource of advantage be it technology, innovation or even culture. Recent research elsewhere has proved that organisational culture is strongly and significantly related to competitive advantage especially when restricted to SMEs and that firms with valuable, rare and imperfectly imitated cultures can obtained sustained superior financial performance, (Ramadan, 2012; Barney, 2001). A firm culture is also said to be valuable where it rewards collaboration, flexibility, risk taking and creativity, (Bogdanovicz, 2014). It is on this premise that this study deemed it necessary to introduce open innovation (in-bound and out-bound) practices as a mediating variable between restaurants' culture and competitive advantage due to the long run negative consequences of fierce competitive in which many firms usually quit the industry. Researchers have shown that highly integrative culture relates positively to in-bound open innovation but there was no evidence of significant relationship between highly integrative cultures and out-bound open innovation. On the other hand, hierarchical culture relates negatively to both in-bound and out-bound open innovation. It has also been examined that innovative culture fosters creativity, learning and inter-employees' cooperation when associated with open innovation. Based on the interaction between organisational culture and open innovation, this work will adopt the culture typologies of and Cameron and Quinn (1999) framework (clan, hierarchy, adhocracy and market) to examine competitive advantage of restaurants.

Statement of the Problem

Despite the successful nature of restaurant businesses in the private sector, studies have shown that restaurants have one of the highest failure rates in retail and service industries in America but may not be obvious because of its high entry rate as well low entry and exit barriers. This failure rate has been substantiated at 30% by many researchers, (Parsa, Gregory & Terry, 2010). This implies that competition only benefits very few of the restaurants in almost every locality. The sector is faced with numerous problems and

challenges arising from lack or inappropriate cultural practices among other micro and macro factors, (Parsa, Gregory & Terry, 2010). Moreover, most restaurant businesses do not have standardised culture of operation for new dimension of competition, internal consistency, integration and external interaction.

Another problem this study intends to address is the refusal of firms to commercialise the unused aspect of their resources under the premise of closed innovation and competition. Stucke (2013) discovers that fierce competition does not necessarily bring about market failures but can ultimately lead to oligopolies and monopolies. Here, firms deliberately limit interaction with external sources of knowledge in order to control its innovation processes for competitive advantage. Some firms have good learnable culture that can benefit other firms but lack the collaborative spirit to share or commercialise it in order to improve their competitive advantage as well.

Review of Related Literature and Hypothesized Relationships

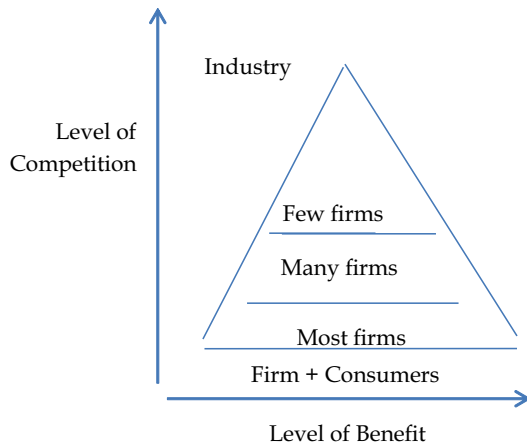
Competitive Advantage

Competition is the dynamic force for free enterprise system. The firm that understand its secret will continue to enjoy product differentiation, service differentiation, innovation differentiation, cost efficiency, people differentiation, image differentiation and etcetera. According to David (2011), competitive advantage is when a firm can do something that rival firms cannot do, or owns something of value that rival firms desire for better performance. Porter (1985) recognised two ways in which an organisation can achieve competitive advantage over its rivals based on cost advantage and differentiation advantage. Cost advantage is when a business provides the same products and services as its competitors, albeit at a lesser cost. Differentiation benefit is when a business offers exclusive and superior products and services than its challengers.

Competition makes firms to always seek ways to become more efficient and productive; else their competitors might unseat them to untimely death. A good number of economic literatures argue that competition among firms benefits consumers via lower prices (Kovacic and Shapiro, 2000). Competition can benefit consumers in other ways such as competition may lead to greater product variety, higher product quality, and greater innovation, which drives productivity growth and helps lift living standards (Shapiro 2012). On the other hand, demerit of “competition is often seen when small companies struggle with more limited resources and a lack of bargaining power with vendors”, (Kokemuller, 2017). One key weakness of “competition” is the certainty of sharing customers with other service providers. Furthermore, competition results in fierce confrontational strategies that can hurt.

Therefore, the fundamental demerit of competitive advantage is that more firms exit the industry as time goes by. This scenario can be illustrated in a pyramid diagram (figure 1) below.

Figure 1: Effects of Competitive Advantage



Source: Researcher's analogy (2018)

Open Innovation

Open Innovation was formalised as a concept in 2003 by the University of California Professor, Henry Chesbrough, with the publication of his book “Open Innovation: The New Imperative for Creating and Profiting from Technology”. Recently, some authors in their research liken open innovation to “Taoism” – that the supreme good is like water where one vacates oneself and fill the space with others to create paradoxes, thereafter replenishing oneself again with more creative method, (Yun, Park, Yang & Yung, 2016). According to Chesbrough (2003, 2006) and De Jong, Vanhaverbeke, Kalvet & Chesbrough, (2008) former leading multinationals like Philips, Xerox and IBM did not obtain full credits from their massive R&D expenditures, but relatively new-born enterprises like Intel grow rapidly in the past decades due to use of open innovation model. This is a clue of the paradigm shift in how enterprises develop and commercialise innovations. The rationale behind the old closed innovation model is that successful innovation requires control and it infers that enterprises must generate their own ideas and then develop them, build them, “market them, distribute them, service them, finance them, and support them on their own in order to be strongly self-reliant”.

Organisational Culture

The concept of organisational culture originated in cultural anthropology and is popular within the organisational behaviour, management, and marketing literatures (Gregory, 2009; Homburg and Pflesser, 2000; Schein, 1992). “Organisational culture refers to the values and beliefs that provide norms of expected behaviours that employees might follow at work”, (Schein, 1992). Schein (1992) considers organisational culture as a social force that is largely invisible yet very powerful. An organisation's culture strongly influences employees' behaviours beyond formal control systems, procedures, and authority (O'Reilly, 1991). As such, organisational culture is a powerful means to elicit desired organisational outcomes. Nonetheless, despite much focused attention on the

topic of organisational culture, extant literature does not sufficiently document the characteristics of an organisational culture that supports innovation or open innovation.

Culture According to the Dimension of Quinn and Cameron

The Competing Values Framework: Within a list of 39 indicators of effectiveness for organisations, two important dimensions were discovered by statistical analysis. Thus, four quadrants developed, corresponding with the four organisational cultures that differ strongly on these two dimensions: Internal focus and integration versus external focus and differentiation; Stability and control versus flexibility and discretion. The left of the graph indicates the organisation is internally focused (that is, what is important for us, and how do we want it to work), and to the right the organisation is externally focused (that is, what is important for the outside world, the clients, and the market). At the top of the graph, the organisation wants flexibility and discretion, while at the bottom the organisation values the opposite, stability and control. Clan culture is full of shared value and common goals, an atmosphere of collectivism and mutual help, and an emphasis on comportment and employee involvement. Leaders are seen as mentors, and concern for people, both employee and customers, is high. An emphasis is placed on team work and loyalty and this tradition holds the organisation together. Adhocracy culture seeks flexibility and focus on its external environment as well as degree of flexibility and individuality. It is supported by an open system that promotes the willingness to act. Cameron and Quinn (1999) characterise the organisation as dynamic, entrepreneurial, and creative place to work. As such, innovation and experimentation are valued, and employees are encouraged to take risk and act with individual initiatives. Market culture focuses on the transactions with the environment outside the organisation instead of on the internal management. Organisation goal is to earn profits through market competition. A major characteristic is a hard-driving competitive organisation environment. Managers are demanding, and a major organisational goal is winning in competitive marketplace. The hierarchy culture is described as having formalised, structured work environments. A major emphasis is placed on coordination on efforts with the achievement of efficiency as a central focus. The management of employee is procedures driven, and predictability is valued. This concept can be treated to the image of bureaucracy in Weber's (Weber, 1947 cited in Ghannay & Mamlouk, 2015) early works on modern organisation management.

Restaurant Business

The Philippine Standard Industrial Classification classifies the restaurant sub-sector in the hospitality industry as businesses that serve food and drinks, be it self-service or full-service which also includes a range of services like fine dining specialty restaurants, fast food outlets, canteens, and food courts, (Edralin and Castillo, 2001). Different types of restaurant fall into several industry classifications based on menu style, preparation methods, pricing and the manner food is served to the customers helps to determine their types. Various types of restaurants (Mealey, 2016) are found everywhere across the world. These include full service, fine dining, casual dining, fast casual, quick service, fast food, café or bristo, food truck, buffet, cafeteria and pub.

There are numerous restaurants with all sorts of operation standards in Jos, the Plateau State capital, although with little or no information about their performance level. It is a sub-sector of the hospitality industry and the predominant type is the middle class restaurants with informal structure. They are known as middle class, independent or casual dining. A casual dining restaurant is one that serves moderately-priced food in a casual atmosphere. Except for buffet-style restaurants, casual dining restaurants typically provide table service. Casual dining comprises of a market segment between fast food establishments and fine dining restaurants. Casual dining restaurants may also have a bar with separate bar staff or combined staff, a larger or limited wine menu with a mix of classics cuisines, (Mealey, 2016).

From the foregoing,

- H1 Is stated as Organisational culture of hierarchy, market, adhocracy and clan cultures has significant impact on competitive advantage of restaurants;
- H2 Is stated as Organisational culture has significant impact on open innovation practices of firms;
- H3 Is stated as Open innovation practices have significant effect on competitive advantage of firms;
- H4 Is stated as Open innovation has a mediating effect between organisational culture and competitive advantage of restaurants.

Theoretical Framework

Theories are necessary to substantiate the relationship among the variables of this research. This study is hinged on the theories of Resource Based View (Barney, 1991), Open Innovation, (Chesbrough, 2003), Resource Dependence Theory, (Pfeffer & Salancik, 1978) and Game Theory (Neumann & Morgenstern, 1944) which will be used to discuss the proposed framework of this research.

Resource Based Theory

Resource Based Theory is an underpinning theory for competitive advantage. Barney, (1991) came out with tool for analysing firms' internal resources and capability to find out whether they can be a source of competitive advantage. According to the theory, a firm must have resources and capabilities that are superior to those of its competitors. Resources are firms' specific assets (tangible or intangible) useful for creating cost or differentiation advantage. Firms' resources can be patents and trademarks, proprietary know-how, reputation of the firm, brand equity, installed customer base and culture of the organisation. These resources must be strategic enough for it to enhance important competitive advantage. The theory also states that the capability of the firm must be superior to others. Capability is the ability and competence of a firm to act urgently. Capability emphasises what a firm can do and generated from the use of resources over time.

According to Barney (1991), resources are strategic to the extent of being (VRIO) valuable, rare, inimitable (difficult to imitate) and organise (non-substitutable). Valuable resources like culture help firms to create strategies to utilize opportunities and neutralize threats in

a traditional SWOT parlance framework, (Barney & Hosterly, 2012). They also assert that rare resources should be unique and hard to come by or at most controlled by very few competing firms. Inimitable resources should have complex features so that attempt to copy by other firms may not be feasible. Organisation of resources has so much to do with capability and timeliness to launch a product or service ahead of others. These elements make up the cultures that provide organisations with golden opportunities to develop competitive advantage over their rivals which in turn will enable these organisations enjoy strong sustainable profits.

Open Innovation Theory

When open innovation was first introduced by Chesbrough in 2003, it was strongly associated with concepts such as new product development, innovation funnel and business-model change in large companies. Today, the scope of open innovation has been extended to concepts like open business models and open services innovation, (Chesbrough, 2006, 2011). Open innovation theory has been described as “inside-out” and “outside-in” innovation in which it implicitly refers to open innovation funnel where firms acquire external knowledge necessary to strengthen their internal competencies in order to speed up the innovation process within the company. On the other hand, unused internal knowledge is monetised through external paths to market (Vanhaverbeke & Roijakkers, 2013), through licensing, joint ventures or spin-offs, (Chesbrough, 2003).

The dimensions to open innovation theory are in-bound and out-bound open innovation. Chesbrough and Crowther (2006) made an interesting discovery that every inbound effort by one organisation generates a reciprocal outbound effort by another organisation. The ideology behind open innovation is that, in a world of widely distributed knowledge, companies cannot afford to rely entirely on their own research, but should instead buy or license processes or inventions (like patents) from other companies. The open innovation paradigm can be interpreted to go beyond just using external sources of innovation such as customers, rival companies, and academic institutions, and can be as much a change in the use, management, and employment of intellectual property as it is in the technical and research driven generation of intellectual property. In this sense, it is understood as the systematic encouragement and exploration of a wide range of internal and external cultures for innovative opportunities, the integration of this exploration with firm capabilities and resources, and the exploitation of these opportunities through multiple channels for competitive advantage (West & Gallagher, 2006).

Resource Dependency Theory

Resource dependence theory (RDT) originated from the work of Pfeffer and Salancik (1978) to show how the external resources of organisations affect the behaviour of another organisation. The obtaining of outside resources is a crucial principle of both the “strategic and tactical management” of firms. Nevertheless, a theory of the consequences of this importance was not formalised until the 1970s, with the publication of the External Control of Organisations: A Resource Dependence Perspective (Pfeffer and Salancik 1978). “Resource dependence theory has implications regarding the optimal divisional

structure of organisations, recruitment of board members and employees, production strategies, contract structure, external organisational links, and many other aspects" of organisational strategy.

RDT has basic assumptions such as organisations depend on resources. These resources ultimately originate from an organisation's environment. The environment, to a considerable extent, contains other organisations. The resources one organisation needs are thus often in the hand of other organisations. Resources are a basis of power. Legally independent organisations can therefore depend on each other. "Organisation A's power over organisation B is equal to organisation B's dependence on organisation A's resources. Power is thus relational, situational and potentially mutual".

Game Theory

Princeton mathematician, John Von Neumann is behind the development of Game Theory. In these games the players or organisations choose their actions separately, but their links to others involve elements of both competition and cooperation, (Dixit and Nalebuff, 2008). The formal application of game theory requires knowledge of the following details: the identity of independent actors, their preferences (cultures to give or take), what they know, which strategic deeds they are permitted to create, and the way every resolution affects the outcome of the game. Nevertheless, each independent actor is assumed to be rational choosing cultural resources that are necessary for both firms.

The theory has been extended to the development of theories of ethical and normative behaviours, (Camerer, 2003). Its application approaches are in auctions, bargaining, mergers and acquisition pricing, fair division, duopolies, oligopolies, social network formation and general equilibrium. Game theory has its criticisms on some grounds. One of the shortcomings of game theory has been how to align strategy and its role in equilibrium concepts such as the famous Nash equilibrium. Nash equilibrium is a situation where players cannot make gain by varying their own strategy, assuming that other players stick to their equilibrium strategy, (Quiggin, 2005). In reality, two organisations may agree to a game but cannot reflect this agreement by changing their strategies due to biasness or the existing strategy is believed to be more result oriented and dominant in nature. In this case, one organisation's best choice remains the same no matter what the other organisation might do to attract reaction of the other organisation.

Methodology

The positivist paradigm guides this research course so that it can utilise the use for quantitative research process. A sample of 310 was determined statistically using the Yamane's (1986) formula for a representative sample size. The instrument for data collection employs standardised questionnaires to elicit data on the behaviours of people or firms in a systematic manner through a survey design. Moreover, the questionnaire was self-administered to all categories of restaurants in Jos North and the unit of analysis was at the organisational level so that each of the restaurants responded to one questionnaire.

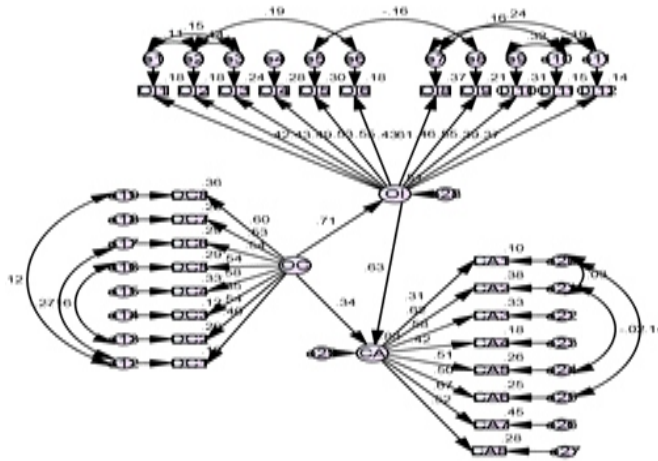
The operationalization of instruments was based on adapted scales from previous scholars to suit this current research context. Competitive advantage was adapted from the 14 item scales developed by Thatte, (2007); later used by Li, Ragu-Nathan, and Ragu-Nathan (2016) and was reduced to 8 items due to its excessive long-ness and relevance for the type of respondents. Again, the competing values framework had 24 items as developed by Cameron and Freeman, (1991) and was later adopted by Cameron and Quinn (1999); Gerowitz, (1998) and Heritage, Pollock and Roberts (2014). The 24 items were eventually reduced to 8 to suit the nature of respondents to this study. The operationalization of open innovation was based on adapted 26 item scales from the construct development and empirical validation for proclivity of open innovation by Ragnus, Drnovsek and Di Minin (2016). The 26 items scales have eventually been reduced to 12 to enhance the participants' interest to respond as it may be excessively long. Due to reduction in the number items of the original scales, Cronbach's Alpha value of 0.873 for the overall 28 items scale was determined and this is high enough to guarantee consistency of the measure which usually ranges from 0.00, much error to 1.00, no error (Ritter, 2010).

The CB-SEM (AMOS) was used for data analysis since the variables and data satisfied all conditions for use of AMOS package (Hair, Matthews, Matthews & Sarstedt, 2017) as well as to obtain more accurate result. The AMOS package also set the process in the determination of discriminant and convergent validities by conducting Confirmatory and Exploratory Factor Analyses (CFA & EFA) in which the AVE, CR and the correlational values were in good order.

Results

SPSS was used to carry out preliminary analysis on the data for cleansing. The boxplot explore statistics examination was employed to test for outliers, there were outliers in the three global variables: organisational culture; open innovation; and competitive advantage and they were all treated with the boxplots method by replacing them with a higher or lower nearest values to the outliers and the result shows absence of outlier.; Variance Inflation Factor and tolerance were used to determine collinearity (multi-collinearity) problems while the histogram and P-P plots were used to check for normality of data.

Figure 2: Path Diagram of Research Framework and Output



Source: Field survey, 2018 designed by AMOS

Figure 2 reveals a relationship among three constructs, OC, OI and CA as the latent variables. The manifest variables are named with uniform label in the rectangle according to items defining each construct. It can be seen that organisational culture and open innovation can contribute 83% performance to competitive advantage while Organisational culture can contribute 51% performance to open innovation.

Table 1: Model Fit Indices

Indices	OC	OI	CA	Model Framework	Standard Adopted (Hair et al, 2010)
<i>N > 250, 12 < m < 30</i>					
Chi-square	26.301	44.931	27.128	547.357	Significant p-value expected
D.f	17	34	16	306	
P.L	0.069	0.100	0.040	0.000	
GFI	0.979	0.972	0.978	0.890	> 0.80
AGFI	0.956	0.946	0.950	0.869	
CFI	0.972	0.980	0.971	0.891	> 0.92
TLI	0.953	0.968	0.950	0.873	> 0.92
SRMR	0.041	0.047	0.044	0.065	≤ 0.08, CFI > 0.92
RMSEA	0.044	0.033	0.049	0.047	≤ 0.07, CFI ≥ 0.90

Note: m is the number of observed variables; N is the number of observations or sample size.

Source: Field Survey (2018); Hair et al, (2010), in Malo (2016).

Table 1 is a collection of the model fit indices for the independent models (OC, OI and CA), the collective model framework and the adopted standard threshold from Hair et al, (2010, cited in Malo, 2016). The probability values for OC and OI are not significant while

CA and the collective model are significant. Their degree of freedom (d.f) are all over-identified whereas the Comparative Fit Index (CFI), Tucker-Lewis index (TLI), Standardised Root Mean Square Residual (SRMR) and the Root Mean Square Error of Approximation (RMSEA) all met and even exceeded the threshold by Hair et al, (2010, cited in Malo, 2016) for the independence models. TLI and CFI try to compare absolute fit of the specified model to absolute fit of the independence model. The RMR is the square root of the average squared amount by which the sample variances and covariance differ from their estimates obtained under the assumption that the model is correct. RMR of zero indicates a perfect fit. Many scholars use their favourite collection of fit statistics to evaluate report, (Arbuckle, 2012).

On the other hand, Good-of-Fit Index (GFI) and Adjusted Goodness-of-Fit Index (AGFI) were OC (0.979), OI (0.972), CA (0.978) and OC (0.956), OI (0.946), CA (0.950) respectively. These are highly satisfactory beyond the accepted criterion of GFI (> 0.80) by Chou and Hu, (2001) and Hail et al, (2010). Similarly, any data that fit a model should give AGFI value greater than 0.80 (Akinyode, 2016). This study model fit indices has exceeded this standard values both for the independence constructs and collective framework. Eventually, the collective model fit indices has weak values as against the independence construct model. The chi-square is as high as 493.921, although the probability level (0.0000) indicates significant. Furthermore, the GFI (0.890) and AGFI (0.869) are satisfactory based on threshold requirement of greater than 0.80 by Chou and Hu (2001), but the CFI (0.891) and TLI (0.873) fell short of all minimum standards (> 0.92) or CFI greater than 0.90 by Jui-Sheng (2013). The SRMR and RMSEA are satisfactory for all the models.

According to Arbuckle (2008), the choice of the fit indices gets easier when the purpose of the fit measure is to compare models to each other rather than to judge the merit of models by an absolute standard. According to the suggestion of Anderson and Gerbing (1992); Kline (2013), to determine the good model fit at this stage, model fit indices were limited to the commonly accepted model indices and these include ratio, goodness of fit index-GFI, adjusted goodness of fit index-AGFI and comparative fit index-CFI as well as the root mean square error of approximation (RMSEA). Hence, the proposed study model fits the data reasonably.

The Mediating Effect of Open Innovation between Organisational Culture and Competitive Advantage

First, there is the need to determine the direct effect of OC on CA and second is to introduce the mediator and estimate the indirect effects of OC to OI and OI to CA. This will help identify whether there is mediation, partial mediation or complete mediation. The table below displays the statistics for testing of the mediation effect in the model.

Table 2: Standardised Regression Weights and their Significance

Construct	Path	Construct	Estimate	P-Value	Decision
OC	→	CA	0.34	0.007	Significant
OC	→	OI	0.71	***	Significant
OI	→CA	0.63	***	Significant	

Source: Field Survey (2018)

Table 2 reveals that all the construct relationships in the model are positive and all significant. The procedures for testing of mediation effect are highlighted below.

- i. The indirect effect = $0.711 \times 0.634 = 0.451$ (0.451 was already provided by AMOS).
- ii. The direct effect = 0.34
- iii. The indirect paths (OC to OI and OI to CA) are all significant.
- iv. Since the indirect effect is greater than the direct effect ($0.451 > 0.34$), mediation is said to have occurred.
- v. The type of mediation is 'partial mediation' because the direct effect is still significant after introducing mediation to the model.

Furthermore, Sobel online programme (or PROCESS macron by Hayes, 2009) was also used to validate the mediation result. Where path a = 0.711 and path b = 0.634; $s_a = .052$ and $s_b = .040$. The outcomes are: Sobel test statistics (10.35312511); standard error (0.0435399); and p-value (0). Lower Limit of Confidence Interval (LLCI at 95%, $z=1.96$) = $0.451 - 1.96(0.044) = 0.365$. Upper Limit of Confidence Interval (ULCI at 95%, $z=1.96$) = $0.451 + 1.96(0.044) = 0.537$. The lower (0.365) and upper (0.537) confidence intervals above revealed the presence of mediation because these confidence intervals for the indirect effect (0.451) have no zero in between them, this makes the mediated effect significant as supported by the probability value of 0 above (Field, 2013). Zero (0) is said to exist in-between confidence limits when there is a negative and positive value, hence with these analyses, open innovation is a good mediating construct between organisational culture and competitive advantage. Therefore hypothesis four (open innovation has a significant mediating effect between organisational culture and competitive advantage) is supported and objective four is thereby satisfied.

Table 3: Summary of Hypotheses Testing

Hypothesis Statement of Path Analysis	Estimate	P-Value	Decision
H₁: Organisational culture of clan, adhocracy, market and hierarchy has significant impact on competitive advantage	0.34	0.007	Supported
H₂: Organisational culture has significant impact on open innovation practice	0.71	***	Supported
H₃: Open innovation practices have significant effect on competitive advantage of firms	0.63	***	Supported
H₄: Open innovation has a mediating effect between organisational culture and competitive advantage	0.451	***	Supported

Source: Field Survey, 2018

Table 3 is a collection of the hypothesis statements, standardised regression estimates, probability values and decision so that at a glance one can see the entire outcome of hypotheses testing.

Discussion

Organisational culture has a positive and significant relationship with competitive advantage and this is consistent with the findings of Ghannay and Mamlouk (2015); Bogdanowicz (2014); Ramadan (2012); Madu (2011); Klein (2011) and Barney (2001) who all concluded a strong relationship between the two variables. This has remained supported for decades because competition is inevitable and the culture weapon for winning competition cannot be practised in the same manner by all organisations. Hence, the issues of organisational culture being valuable, rare, inimitable and organised become very glaring as established by Barney (1991). Organisational culture also revealed a positive and significant effect on open innovation. This outcome has been supported by the work of Mazur and Zaborek (2016) which revealed a positive relationship between innovative culture and sources of open innovation of SMEs in the manufacturing and service sectors in Poland, although innovative culture has no direct effects on the percentage of sales from new and modified products which is usually the metrics of innovativeness. In this case, innovative culture corresponds with adhocracy culture which seeks flexibility and focus on its external environment.

According to Cameron and Quinn (1999), organisational culture is characterised as dynamic, entrepreneurial, and creative organisation. Comparing the similar result in Poland and Nigeria could be attributed to the globalisation concept that the awareness of

superior culture can also be a source of open innovation. Open Innovation paradigm supports development of network or ecosystem for business actors to interact with others actors in the innovation system (O'Doherty & Arnold, 2003); Schilling & Phelps (2007) discovered that firms in alliance networks have greater innovative output while it was also found that network capability framework serves as an analytical tool for companies to benefit from open innovation. Lack of a balanced open practice may impair its ecosystem. The effect of open innovation on competitive advantage was positive and significant indicating that openness to new ideas from the environment improves firms' competitive advantage. In support to this, Reed, Storrud-Barnes and Jessup (2012) studied how open innovation affects the drivers of competitive advantage: trading the benefits of IP creation and ownership for free invention in an attempt to discover firms' ability to profit from intellectual property that they do not own.

Paramount to this study is the mediating effect of open innovation between organisational culture and competitive advantage. This is an issue that aroused the motivation in order to explain and remedy why competition shrinks the number of firms in an industry. Resource Based Theory has established that organisational culture leads to sustained competitive advantage but gives one or few organisations edge over many others in the market place (see figure 1). Open innovation on the other hand offers a mediation explanation of how organisational culture can enlarge the number of firms with similar edge in the industry. There was positive and significant correlation among the relationship of all the variables in this study, stipulated by Baron and Kenny (1986) as the necessary and satisfactory conditions for mediation to take place. Furthermore, a partial mediation (MacKinnon, 2008; Preacher & Hayes, 2004) ensures that organisational culture significantly predicts open innovation while open innovation significantly influences competitive advantage.

Theories selected for this study have also supported this outcome in various ways. First, the direct effect of organisational culture on competitive advantage is the substantive contribution of the Resource Based Theory which has the smallest regression value between the independent and dependent variables. It suffices to say that this may account for why fewer than many firms survive competition in an industry. This type of model once affected the banking sector of Nigeria during the capitalization reforms which reduced 87 banks to less than 20 national banks. Second, the Game Theory, Resource Dependency Theory and the Open Innovation Theory contributed the indirect effect in the regression value(s) predicting larger effect on the competitive advantage of more number of firms in the industry (see figure 1).

Conclusion and Recommendations

The restaurant sector possesses mostly informal structure except for very few of the firms; organisational culture is to help enhance peaceful co-existence, innovativeness and flexibility in the work place, without which the restaurant business cannot sustain competitive advantage. On the other hand, open innovation can be enhanced through technological development and formation of strategic networks. Open innovation

enables firms to create their intellectual properties, manage them and share with competitors or allies in an attempt to support firms' ability to profit from intellectual property that they do not own. The partial mediating effect of open innovation between organisational culture and competitive advantage is central issue of this research which justifies why competition may no longer shrink the number of firms in an industry if open innovation is introduced without knowledge hiding. Theories selected for this study have also supported this outcome through the direct effect of organisational culture on competitive advantage of the Resource Based Theory which has the smallest regression value between the independent and dependent variables; and the indirect effect may have been contributed by Resource Dependency Theory, Game Theory and Open Innovation Theory.

Therefore, the following suggestions are recommended for the purpose of improving restaurants' competitive advantage.

1. Firms in the hospitality industry should appropriate the rate of hierarchy, market, adhocracy and clan cultures for sustainable competitive advantage. This can always be done by diagnosing and changing their culture combinations whenever the current one seems no longer effective, using the Organisational Culture Assessment Instrument (OCAI).
2. Firms should attempt to practise open innovation at a proportion that can constitute good competitive-collaboration strategies (what to take at 85% and what to give at 15%) in the mediation process.
3. Organisations should begin by forming short network pairing or blocs and subsequently expand it according to the benefit of open innovation. The range of the network formation should begin street by street so that the rules of the game can be defined and through which restaurant sub-sector can be made formal.
4. Firms should ensure their combination of organisational culture and open innovation practices attained 83% contribution for it to produce good competitive advantage in the industry.

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