Importance Performance Analysis of Service quality for Locals and Expats in Indian Restaurants in Taiwan: Case Study

Bapi Das¹, Tung Sheng Kuo² and Yuan Shufang³

¹MBA Student, Department of Business Administration, Nanhua University, Taiwan

²Associate Professor, Department of Business Administration, Nanhua University, Taiwan

³Yuan Shufang, Associate Professor, Department of Business Administration, Nanhua University, Taiwan

Abstract

In the recent era, service quality has played a key role in each organization. This study aims to evaluate the service quality performance of Indian restaurants located in Taichung city of Taiwan. In this context, we have adopted the DINER SERV questionnaire after reviewing various literature. Importance performance analysis methodology has been used to understand the service performance of each service item. The study will evaluate and analyze the service quality desired as per the customer in Taichung city under the context of the service quality. IPA being a marketing tool to give a vivid picture for managers to make decision and understand their competitive advantage and improve on the rest.

Keywords: Importance performance Analysis, Customer satisfaction, DINER SERV, Service quality

1. INTRODUCTION

1.1 Research Background and Research Motivation

Food is one of the basic prerequisites for any living individual since the scope of the food industry has increased exponentially in the past decades.

In the present era, every business wants to expand its horizon and lay their hands in cross-border business. Food chain restaurants have nowadays a plethora of new items to offer to their consumers. Restaurants are coming up with new alluring interiors to persuade consumers to come and dine in apart from there quality of food. But things get more challenging when the food of a different country is being put up in a distinct country with a completely divergent culture and food consuming habits. As suggested by (Uma Narayan, 1995) he traced food culture of India and the religious habits.

This research study is based on a case study, where an Indian restaurant (Indian Cultural Authentic food) being put up in Taichung, which is based on Taiwanese culture. Since from the history and observation for both the culture we see that both are very distinct apart from each other in their food habits and acceptance of various distinct cultural food.

In context to India's culture and food habits we heed, that maximum Indian traditional food is based on various different spices and the savory intensity varies as per the taste and region. However, cuisine from north India to south India and from west to east India differs extensively.

In spite of the fact that Indian cuisine is distinctly territorially particular, there are certain common strings that can be part of collectively the divergent culinary bones. Indian food all through the country is profoundly subordinate on curries, that are gravy-like sauce or stew-like cuisine with veggies, meat, or butter notwithstanding that the particular zest blends, degree of liquidity, and

fixing are decided by territorial inclinations. Indian food in common is additionally exceptionally subordinating in rice, in spite of the fact that southern Indian regions use rice more intensely than other areas as the staple. The most consumed staple for Indians is the rice of long grains like Basmati rice, wheat, lentils, or pulses. The cuisine in most subcontinent is very rich in spices and herbs like ginger, coriander, cardamom, and many others and which are cooked together to make curries.

The population of India is dominated by Hindu religion and as per the “Guardian report”, there are 20% to 40% who consume vegetarian meals. And for Nonvegetarian mostly consumer fish, lamb, pork, and chicken excluding beef (red meat) since it is considered scarred. But the common ingredients or spices used are chili peppers, cumin, mustard seeds, fennel, cardamom, cinnamon, turmeric, garam masala (a mixture of various spices).

Concurring to the 2006 “Hindu-CNN-IBN State” of the Country Overview, 31% of Indians are vegans, whereas another 9% devour eggs. Among the different communities, vegetarianism was most common among the Jain community and after that Brahmans at 55%, and less visit among Muslims (3%) and inhabitants of coastal states. Other studies cited by F.A.O. and U.S.D.A. assesses 20%–42% of the Indian populace as being vegan.

India’s populace is profoundly different, with social personalities intensely affected by devout and territorial particularities. Ayurvedic lessons, emphasizing the balance between intellect, body, and soul, have applied an impact over Indian food in common, directing fixing pairings and cooking hones. Whereas this reasoning may be a common impact all through Indian food, the ways in which Ayurvedic nourishment rules are connected contrast agreeing to religion and territorial culture. Around one-third of India’s populace is vegan, directed by their Hindu, Jain or Buddhist religions. This, a noteworthy parcel of India’s dishes all through the nations are without meat. Furthermore, devout convictions influence other dietary limitations that

shape India’s cooking. Hindu adherents go with from hamburger, since beef is sacrosanct in this confidence, whereas Muslims accept pork to be unclean and never consumed. Depending on the overwhelming devout convictions of a locale, the cooking in a portion.

Now, in the frame of reference to Taiwan, we see that Taiwanese cuisine is dinky and is very well connected to the roots and patterns of historical relocations and colonization. The culinary is greatly influenced by mainland china, prominently from the southern part of china that is Fujian. And also had an ascendancy from the Japanese culture due to the colonization of Japanese troops in Taiwan. The cuisine of Taiwanese is distinctly a hodgepodge. The nearby inborn flavours and waves of exterior culinary have impacted all coalesced into the “salty-sweet” trademark of cutting-edge Taiwanese cooking in which modest bunches of basil, garlic, and green onion is put in almost every dish. An estimate of 14% of the total population of Taiwan consumes vegetarian compared to its total population. And the religion is mainly dominated by the followers of Buddhism 35.1%, Taoism 33.0% Islam 0.3 %, and few other minor religions. The main consumption of Taiwanese mob is rice, pork, poultry, seafood, beef, fish, and other various kinds of vegetables. Taiwanese Hot Pot, hamburger, Xiao long Bao, tofu, braised pork rice, oyster vermicelli noodles, are common consumption for the most individuals.

We clearly see that there is a food culture difference since the eating habits in India, where gravy-sauce mixed with meat or vegetables is one of the common foods whereas in Taiwan we don’t see the consumption of gravy or curries in everyday meals. But it is important to note that the ingredients used to prepare few meals for both the countries are same like consumption of garlic, ginger, onion and few other herbs and spices. The cuisine of vice-versa nations can be prepared as per the tasty of the countries people. Currently, the Indian restaurant is put up in the location “Taichung” city and have their branches spread over 4 different places in the same city. They have been operating their restaurant since past 5 years

and catering to the people of Taiwan located in Taichung for all group of people, with their Indian authentic cuisine.

In this paper, we try to analyze the Importance performance of the restaurant used as the case study, and give an analysis of the which is the preference of the customers related to the service quality dimensions.

1.2 Research Objective

We are also going to explore these data with Importance Performance analysis and come up with useful insights so that the stakeholders understand what is their advantage and disadvantage. Understand the gap and where the stakeholders can concentrate to have a competitive advantage.

We also try to analyze the effect service quality using DINESERV dimension, cultural impact leads to customer satisfaction, which in turn effect the satisfaction towards the restaurant and have an impact of sales in the food items.

The paper's main motivation is to acquire proper insights using the IPA method, and also the paper hypothesizes the framework with the support of the literature review of various previous conducted studies and understand the consumer satisfaction for the food choices they have for Indian cuisine, and this study can be implemented in a larger way wherein different country can base their restaurants in a distinct culture country.

1.3 Subject and Research Scope

The study focuses to assess and analyse the dimension of the DINSERV and give a brief insight for the competitive advantage and what must be dealt immediately. We have used past theories to support our research and studied the ongoing market skills to make the research more advanced in every pursuit.

The research methodology will use some of these techniques:

- Quantitative Survey
- Importance Performance Analysis (IPA)
- Reliability Test and validity test
- ANOVA and Independent T-test

- Regression

The content of this study separated into five chapters, which are describing as the following below:

Chapter one stated the research background, research objective, procedure and construct.

Chapter two stated the theoretical background, term & definition of each construct and component that will use in the study, and research hypothesis.

Chapter three showed the research framework, instrument, questionnaire item of each construct, translation procedure, and methodology that will apply to analyze the data.

Chapter four showed the result of data that found out after running the data and it also using table of the result with the explanation of each finding. Those tables were related to the table of Factor loading, reliability test, ANOVA and T-test and Regression. Moreover, it showed each the interrelationship of each hypothesis.

Chapter five would summary all the result into the context that we want to find out. After that, it also did the discussion and implication for the future research.

2. LITERATURE REVIEW

2.1 Service Quality

Service quality has always been considered one of the most important factors for any enterprise or service industry. Since service quality has played immensely to determine customer satisfaction, so various researched defined service quality into multi-fold as per the virtues. It is seen that service quality is one of the most important factor in this competitive market wherein most enterprises use it to their advantage to win against their competitors. Better the service quality, better is the chance for success in the market or vice versa in the hospitality sector.

Many researchers took the initiative to study the service quality effecting customer satisfaction in various industries. Previous studies done by (HsinKuang Chi & Kuo Chung Huang,

2019), showed that service quality has a positive effect on customer satisfaction and which in turn also has a positive effect on word of mouth in context with meta-analysis. There also been studies showing the divergence of the service demanded to the service received (Jui-Kuie Chen and I-Shuo chen-2010). Both service and quality can be disembodied into two independent definitions as suggested by previous scholars. The delivery of exemplary and high-quality service is analogous to customer expectations (Gursoy et al, 2005). Quality can be defined as the attainment of approximate expectations and their continued maintenance that is the continuous cycle. Particular literature revealed that gender has a strong effect on both service quality and customer satisfaction (Muhamad Saufiyudin Omar, 2015). In the variation, numerous other analysts have done the empirical work which upheld the impact of seen benefit quality on the customer's fulfillment (Spreng Mackoy, 1996). An analysis performed by (Yuksel & Yusel, 2002) also proposed that service quality has a critical impact on the dining fulfillment at a total showcase level and especially for bold and solid nourishment seekers. Service quality has always played as a key factor in most service industries or product industries. It caters to meet the consumers' needs and understand how efficiently they can match their expectation. The hospitality sector faces the major challenge of providing dynamic efficient quality to the needs of the customer. The way to ensure efficient service quality is by meeting and eclipsing what clients anticipate from the administration. (Zeithmal et al 1985) suggested that heterogeneity reflects the capacity for high heterogeneity in the provision of services. It is seen that usually a specific issue for services with higher labour work substance, as the benefit execution conveyed by diverse individuals and the attainment can change every day. A well known model was proposed by (Gronroos, 1984, 1990) which showcased the dimension of which occurs prior to the final outcome. As per the model the technical quality and functional quality crop up before the outcome quality. Where in technical process or quality can be what is being conveyed

to the customer, and the latter is in step with how the conclusion result of the process was exchanged to the client. It was noted earlier that service quality is analogous to value and in turn conjures to satisfaction or dissatisfaction to the consumers. As service quality gained more interest for competitive strategy, (Parasuraman, Zeithmal, 1985) came up with an empirical model that emerged as a measurement scale called the SERVQUAL. It is often used as a tool for measuring the gap between the perceived service to that of actual services given to the customer. SERVQUAL Model assisted (Miklos Pakurar, Judit Olah, 2019) in his research in the banking sector to show that service quality had a greater significant in the customers satisfaction.

This frame of reference was endorsed by many researchers but was denounced by many scholars since this model did not fit most of the service industries especially the hospitality industry sector. After witnessing the dereliction of the model (Pete Stevens, Bonnie Knutson, 1990) designed and implemented the LODGSERV model.

This model was very conducive to the hotel industry. It has a total of 26 items and similar elements as SERVQUAL. After analysing the elements through CFA developed by Hunter and Gerbing, it was found that Reliability was more paramount to the other dimensions. (Leo Renaghan, Laurette, 1994) commented that LODSERV still lagged the service quality for the food service sector. Acclimating SERVQUAL framework and honing to LODSERV, DINESERV was implemented and adapted by many researchers in the hospitality sector where food-service industry is mainly focused. (Pete Stevens, Knutson and Patton- 1995) analysed both DINSERV and LODSERV had cited similar intercorrelations between the five elements and illustrated low inter-dimension correlations. This model can be implemented to fine-dining, casual-dining and quick-service restaurants. This model assists scholars and individuals to understand and determine the perceived service quality by customers. Vanniarajan (2009), Markovic (2010), Kim (2009), and other researchers have

implemented this model in their research work to understand the perceived service quality in restaurants.

2.2 Importance Performance Analysis

Importance performance analysis (IPA) is a market tool, an analysis to measure individual have their thoughts towards a particular service (Martilla and James 1977), they were the primary key individual to present IPA, basing their application on the conceptual establishment of multi-dimensional choice models (Wilkie and Pessemier, 1973). They perceived the esteem of examining both the traits of importance and figure exhibitions, outlying their case through a straightforward consider of an car benefit merchant sort on expanding benefit clients and rehash deals on unused vehicles.

Some scholars have used this method to find real business solutions and uses this technique to examine various attributes and facilities (Hammit, Bixler & Noe, 1996). Through previous studies (Levenburg & Magal, 2004 & Beale and Fortuna, 2008) it is suggested that IPA matrix can provide a vivid picture regarding the customer satisfaction towards the service quality. IPA has been widely used as a marketing tool but recently due to its uses it extends its application towards various other fields like food service as suggested by (Tontini & Silveira 2007). Research by (Jui-Kuei Chen, 2010) investigated the preference of gap in reference to improvement of the service quality in restaurants in Taiwan. IPA took a huge wide of application in the field of banking (Allbright, And Tinson 2005), where they are to understand the customers perspective and how to improve the service they are currently providing. It as also helped industries like healthcare, e-business and tourism. IPA provides insight of a service weakness and strength and the following information gives a keynote to the mangers to have a decision regarding there service improvement. The IPA tool is contemplated as an expectation- disarrangement analysis that revolves around the customer satisfaction as an action of importance and performance of different services offered my an organization (Martilla & James

1977). Research conducted by (Franz & Townson, 2008; Perters & Franz, 2012) suggested that IPA has been a robust methodology to provide a traditional needs and can be used by most managerial professional to make a decision. IPA is a practical and purposeful method by which managers can quickly and efficiently gain insight into the big picture, whether they are on the right track or certain corrective actions are needed. As suggested by (Semso Ormanovic, Alen, 2011), traditional IPA is based on erroneous underlying assumptions and therefor the results obtained by this method are called into questions. Customer satisfaction data obtained by direct method carry with them the appearance of conscious preference of the respondents and an indirect method of assessing the dimensions of importance and performance. IPA can help quality strategy creators identify those elements of service and products whose resource allocation can contribute to more satisfied users. IPA has been also applied to measure e-government services in Japan (Meng Seng Wong, Nishimoto Hideki, 2010).

IPA research conducted by (Wade and Eagles, 2003) showcased the main spotlight toward the visitors service and accommodation.

2.3 Defined Dimensions of DINESERV, Attributes of Service Quality.

In many literatures related to service quality, SERVQUAL method developed by (Parasuraman et al., 1988) showed that five dimensions were very important those are Reliability, Tangibles, Responsiveness, Assurance and Empathy. Scholar (Miklos Pakurar and Judit Olah, 2019) used the same dimension along with an extension of Financial aspects, Employee competences, Access to services, to understand the service quality and reflecting to customer satisfaction.

2.3.1 Reliability

Parasuraman et al., 1988 suggested that reliability is one of the crucial factors for in the dimension of service quality in most service industries. Here in context reliability refers to the capability to offer quality service which is precise and dependable.

The concept revolves around the adequate service provided by the enterprise to the customers in a well-mannered fashion. In reference to restaurants reliability adapts to reservations of a table, invoice accuracy.

2.3.2 Responsiveness

This generally refers to eagerness to acknowledge and resolve customers disputes with their prompt services. Service quality can be enhanced with the help of responsiveness of the staff's members and their eagerness to solve the disputes as quickly as possible. (Zeithamal, 2003) suggested that, benefactors are timely helped with the drinks list and cuisine and if the staff reacts suitably to customers request for incite service.

2.3.3 Assurance

This shows that the capacity to inject certainty and believe within the customer. In this context, the staff's members try to gain the confidence and trust of the customers.

2.3.4 Empathy

It is the capacity to empathise and try to fathom the customers. The customers are kept are the highest importance and try to assist the customers in what to ever means.

2.3.5 Tangibles

It is the physical outlook of the staffs, the physical environment, anything that can be observed and touched. It mainly provides the soothing effect to the customers.

2.4 Service quality and Customer Satisfaction.

Customer satisfaction is one of the key vital roles of any organization. It can be exemplified as an instrument that actuate how jubilant customers are with the enterprise's services or products. It can be a measurement for customers expectation and leading to create happiness. Many scholars have researched satisfaction from different aspects. Zeithamal and Bitner (2003) showcased in his research that some sort of joy is associated with satisfaction and extends to customers prudence of

the service or product. A disconfirmation model was also studied by (Churchill &Suprenant, 1982) where they examined customers expectation and perceived performance ratings. It revolves on the four aspects which has been revolving on the construct of performance, expectations, disconfirmation and satisfaction. Author (Johnson et at., 1995) defined satisfaction as the experience gained by the utilization of the services purchased. Enterprise are very focused on profit margin. It is seen that customer satisfaction of any organization actually assists the enterprise to reach their goals. Literature of (Luo, 2007 and Psodorov, 2011) showcased that through legitimate use of quality service, can reach the satisfaction of the customer and hence generate more profits for the organization. According to the literature of (Oliver, 1980), he defined satisfaction as divergence amidst of expectation and perception of the service before and after the receivable of the service. (Parasuraman et at.,) squabble that service quality and satisfaction are 2 distinct impression but have a very adjournment with each other. Author (Duc Nha Le, 2020) showed that part of innovation and infrastructural financing indirectly affects the customer satisfaction of worker in the port of Vietnam. There is abundance confirmation

That service quality is an antecedent of customer satisfaction as per the previous literatures (Lee &Yoo, 2000). Some scholars have criticised the fact that service quality is antecedent of customers satisfaction, since few studies showcased that customer satisfactions was not significantly certain to service quality (Taylor 1992).

2.5 Case Study: Chilliesine Indian Restaurant

The subject for the research is Chilliesnine Indian Restaurant, which is located in Taiwan. They are predominantly situated in Taichung and Hsinchu, holding 4 branches and 1 branch respectively in those cities. They have started their food industry business from 2015 and its been 5 years holding 5 branches. The restaurant offers authentic Indian cuisines from the northern and southern parts of India. They try their best to attain the taste, aroma

and flavor of each dish with the efforts of the Indian Chef's hired in the restaurant. They also cater to small- and large-scale events in the restaurant. The information source is from the official website of Chilliesine (<http://chilliesine.com.tw/en>). They have also been listed by the famous Michelin Guides for best restaurants to dine in in Taichung. The restaurant has made its name to the Michelin Guide's, where they were mentioned how good they have been doing since 2015 and serving variety of foods and also offering vegan option and popular non spicy food for children. The information can be cited from the Michelin Guides point of view, Taiwan <https://guide.michelin.com/tw/en/taichungregion/taichung/restaurant/chilliesine-west>).

3. RESEARCH METHODOLOGY

Based on the literature reviews, in this chapter, the consideration will illustrate about the Hypothesis of the framework, in extension, this chapter will use the methods to measure and analyse the framework developed based on the previous studies.

3.1 Research Model

As per the literature review described in chapter two and the hypothesis development, the proclamation of the hypothesis would be described as the below framework. (Fig 3.1)

3.2 Instrument

This survey would target the locals and expats living in Taichung city located in Taiwan mainly individuals who are visiting Indian restaurants in that location.

The questionnaire is branched in to two parts, the construct questions and the demographic. The construct will involve four from Reliability, eight from Tangibility, four from Responsiveness, four from Assurance, four from Empathy, a total of 24 questions for the DINESERV construct which is the adaptation of SERVQUAL the measure of service quality. In addition to this, there are four more question of satisfaction. Thus, the total number of questions are 28 to test the complete framework.

The demographic part will include age, gender, occupation, education level, and locations – locals or expats in Taiwan. In this study, it uses the five-point scale with “1” denotes as “strongly disagree”, “2” denotes as “disagree”, “3” denotes as “neutral”, “4” denotes as “agree” and “5” denotes as “strongly agree”. Thus, the scale will appear in the questionnaire survey by letting the respondent rates their perception on the items which in turn divided into Importance preference and Performance.

3.3 Questionnaire

In this study there are three dimension and the first dimension have 5 subdimensions. Each dimension has their own questionnaire items that are referred from previous studies and research.

3.3.1 Reliability

The questionnaires are inferred are taken from the past studies conducted by the scholar in order to reveal the Reliability a subdimension of DINESERV, service quality (Jui-Kuei Chen, I Shuo Chen, 2010 and Juliana Rocha, Antonio Carlos, 2014).

1. The mistakes are corrected as soon as they occur.
2. Service is reliable.
3. The bill or invoice is accurate
4. Inform customers of the menu decently.

3.3.2 Tangibles

The questionnaires are adopted from the study done in the book *Cornel Hotel and restaurant Administration* quarterly by Pete Stevens, Bonnie Kuntson and also took inference from (Jui-Kuei Chen, I Shuo Chen, 2010).

1. The restaurant has an attractive building exterior infrastructure.
2. The eating area attracts more customers.
3. Waiters attire is very tidy.
4. The restaurant has a hygienic restrooms which is cleaned thoroughly.
5. The menu is very attractive.

6. The restaurants interior décor is very attractive.
7. The eating area is clean and comfortable.
8. The restaurant seldom provide wrong meals to customers

3.3.3 Responsiveness

The questionnaires are adopted from the study done in the book *Cornel Hotel and restaurant Administration* quarterly by Pete Stevens, Bonnie Kuntson and also took inference from (Jui-Kuei Chen, I Shuo Chen, 2010).

1. The waiters back each other often during busy hours.
2. The restaurant provides a timely service.
3. The restaurant assists in timely response in unique requests from customers
4. The waiter provide quick and prompt service.

3.3.4 Assurance.

The questionnaires are inferred are taken from the past studies conducted by the scholar in order to reveal the Reliability a subdimension of DINESERV, service quality (Jui-Kuei Chen, I Shuo Chen, 2010 and Juliana Rocha, Antonio Carlos, 2014).

1. The restaurant waiters have good problem solving abilities.
2. The waiters can explain the menu very precisely
3. Waiters provide sense of satisfaction to the customers.
4. Waiters are well trained and disciplined.

3.3.5 Empathy

The questionnaires are inferred are taken from the past studies conducted by the scholar in order to reveal the Reliability a subdimension of DINESERV, service quality (Jui-Kuei Chen, I Shuo Chen, 2010 and Juliana Rocha, Antonio Carlos, 2014).

1. Waiters seldom ignores customers doubts
2. The restaurants puts the customers has their first priority

3. Waiters show their empathy towards customer at all times.
4. Waiters are very responsive towards the needs of customers in advance.

3.3.6 Satisfaction

The questionnaire is designed based on the references taken from the past research work of (Ying-Feng Kuo, Wei-Jaw Deng, 2009).

1. I restaurant gives me a higher sense of self-identity.
2. I am very satisfied with the food served by the restaurant
3. The food quality is very adequate
4. The value added service is better than expected

3.3.8 Demographics

The purpose of demographic construct is to investigate the characteristics and type of user in this survey. This will also give the preference of choices among the local nationals versus the expats in Taiwan. As per the previous literature and research analyzed, the study can be measured by some of the demographic as below:

1. Genders
2. Age
3. Education Level
4. Income Level
5. Local / Expats.

3.4 Sampling and Data Collection

The research for the study would be by doing a quantitative data analysis by sending out a survey on google form, and the following link can be sent to social media such has Facebook, LinkedIn, Gmail, Instagram and line. A hardcopy of the following question will also be distributed in the Indian restaurants, where the customers are coming to dine in.

The link or the hardcopy will follow the 5 scale Likert to get the correspondents responds. The sample would be approx. to 350 respondents in

order to do an efficient study. After collecting the data and meet with the requirements, the data will be exported into the SPSS (.sav) file. The method of analysing the data stated in Data Analysis Procedure part.

3.5 Data Analysis Procedure

The research will use the latest SPSS version in order to conduct the data analysis and understand the research gap along with the methodological technique such as:

1. Factor Loading and Reliability Test
2. ANOVA and Independent T-Test
3. Confirmatory Factor Analysis
4. Importance Performance Analysis

3.5.1 Reliability and Validity Test

The goal of factor analysis is to analyze the variance of a set of correlation coefficients. It can be related to exploratory and confirmatory purpose. The factor loading that is greater than 0.7 will select as a specific group of factors.

After finish the factor loading analysis, the study will use reliability to check the Cronbach's Alpha, item-to total correlation, and KMO. The Cronbach's Alpha should be greater than 0.7, and the item-to-total correlation should be greater than 0.5, and KMO should be higher than 0.5. If not meet the requirement, some items that are less will delete. Confirmatory Factor Analysis used to define each construct, and test whether the data that collected fit with the hypothesis that already constructed or not. In the CFA, the loading should be higher than 0.7. CFI value ranges from 0 to 1 (values greater than 0.90, conservatively 0.95 indicate good fit). RMSEA that is 0.1, 0.05 or 0.08 will be the excellent result, and the value is higher than 0.1 are mediocre.

3.5.2 ANOVA and Independent T-test

ANOVA tests more than two groups, and T-test tests only two groups. This method is to test whether two groups or more than two groups are

difference in one relation of single variable or not; or we can say the t-test and ANOVA examine whether group means differ from one another.

3.5.3 Importance Performance Analysis (IPA)

IPA analysis is a measuring tool to understand customers subjective feelings about the performance of its services. It is a two-dimensional matrix graph divided into four quadrants:

1. The first quadrant: "keep up the good work", where the overall satisfaction and attention score is higher than the average. It also indicates competitive advantage.
2. The second quadrant: "possible over kill", where the customer satisfaction is higher than overall average but the importance score is lower than average score. This indicate reducing the resources.
3. The third quadrant: "Low Priority", in this quadrant both the customers satisfaction and attention scores are less than the overall average score. It also indicates that, it doesn't require much attention at this moment.
4. The fourth quadrant: "Concentrate Here", here the customer score is lower but the importance score is much higher compared to the overall average score. This quadrant gives a sense of improvement and to be dealt immediately.

Fig 3.1 – IPA quadrant

Acknowledgement

Firstly, I would like to express my deepest gratitude to my advisors Professor Tung-Sheng Kuo, Ph.D. , for his guidance, kindness, patience, time and utmost effort during the whole process of my dissertation writing process.

Secondly, besides my advisor, I would like to say thanks to all my friends for all their advice as well, the owner of “Chilliesine Indian Restaurant”, Mr. Minesh for helping me throughout my thesis process. I would like to say thanks to my classmates, who gave me a lot of help and encouraging me to do better and more in preparation for this dissertation, and share experience the research of statistical analysis patiently corrected grammar and writing styles for my thesis.

Thirdly, this thesis would not have been possible without the support of my family, beloved person and friends in India who always believe, encourage and support me.

Finally, I also want to say thank you to the respondents who are helping me fill the questionnaire.

References

- Afacan, Yasemin. "Extending the importance–performance analysis (IPA) approach to Turkish elderly people’s self-rated home accessibility." *Journal of Housing and the Built Environment* 34, no. 2 (2019): 619-642.
- Al-Emran, Mostafa, and Vitaliy Mezhyuev. "Examining the Effect of Knowledge Management Factors on Mobile Learning Adoption Through the Use of Importance-Performance Map Analysis (IPMA)." In *International Conference on Advanced Intelligent Systems and Informatics*, pp. 449-458. Springer, Cham, 201
- Ali, Muhammad, and Syed Ali Raza. "Service quality perception and customer satisfaction in Islamic banks of Pakistan: the modified SERVQUAL model." *Total Quality*

- Ali, Sadia Samar, Arati Basu, and Nilesh Ware. "Quality measurement of Indian commercial hospitals—using a SERVQUAL framework." *Benchmarking: an international journal* (2018).
- Amanah, Dita, Ratih Hurriyati, Vanessa Gaffar Disman, and Dedy Ansari Harahap. "Service Quality towards Lazada's Customer Satisfaction based on Importance Performance Analysis Methods and Customer Satisfaction Index." (2019).
- Arif, Ishtiaque, Abu Bakar A. Hamid, and Yuhanis Abdul Aziz. "Do Bangladeshi Restaurants Meet Customers' Expectations? An Empirical Study on the Perceptions of Customers." In *Proceedings of Asia Conference on Business and Economic Studies (ACBES) by University of Economics Ho Chi Minh City on 8th–9th Sep 2018 at Ho Chi Minh City, Vietnam*, pp. 820-824. UEH Publishing House, 2018.
- Atzori, Roberta, Valeriya Shapoval, and Kevin S. Murphy. "Measuring Generation Y consumers' perceptions of green practices at Starbucks: An IPA analysis." *Journal of foodservice business research* 21, no. 1 (2018): 1-21.
- Bacon, Donald R. "A comparison of approaches to importance-performance analysis." *International Journal of Market Research* 45, no. 1 (2003): 1-15.
- Bagchi, Nirmalya, and Kohinoor Chatterjee. "Identification of gaps in performance of services provided to start-ups in high technology, low technology and social & agri-business incubation centers in India: Constraints to growth." *ASCI Journal of Management* 46 (2017).
- Bagur-Femenías, Llorenç, Jordi Perramon, and Marc Oliveras-Villanueva. "Effects of service quality policies in the tourism sector performance: An empirical analysis of Spanish hotels and restaurants." *Sustainability* 11, no. 3 (2019): 872.
- Beach, L.R. ,& Burns, L.R. (1995) The service quality improvement strategy: identifying priorities for change. *International Journal of Service Industry Management*, 6 (5), pp. 5–15.
- Bi, Jian-Wu, Yang Liu, Zhi-Ping Fan, and Jin Zhang. "Wisdom of crowds: Conducting importance-performance analysis (IPA) through online reviews." *Tourism Management* 70 (2019): 460-478.
- Bourne, Paul Andrew. "Customer satisfaction of policing the Jamaican society: using SERVQUAL to evaluate customer satisfaction." *Journal of Healthcare Communications* 1, no. 3 (2016): 2472-1654.
- Büyükoçkan, Gülçin, Celal Alpay Havle, Orhan Feyzioğlu, and Fethullah Göçer. "A combined group decision making based IFCM and SERVQUAL approach for strategic analysis of airline service quality." *Journal of Intelligent & Fuzzy Systems* 38, no. 1 (2020): 859-872.
- Chen, Kuen-Suan, Kuo-Ping Lin, and Li-Ju Lin. "Evaluating the environmental protection strategy of a printed circuit board manufacturer using a Tw fuzzy importance performance analysis with Google Trends." *Expert Systems with Applications* (2020): 113483.
- Chen, Wei-Chuan, Wen-Kuo Chen, Chien-Wen Chen, and Chien-Cheng Lo. "An empirical study of willingness to renewable energy installation using importance-performance analysis: the case of Taiwan." *Journal of Industrial and Production Engineering* 36, no. 7 (2019): 451-460.
- Chen, Yu-Chuan. "Applying importance-performance analysis to assess student

- employability in Taiwan." *Journal of Applied Research in Higher Education* (2018).
- Chiu, Kuei-Chien, Chih-Sung Lai, and Hsing-Hui Chu. "Apply Importance Performance Analysis to Explore Innovation Resistance of Home Robot." *International Journal of Mechanical Engineering and Robotics Research* 9, no. 5 (2020).
- Dabestani, Reza, Arash Shahin, Mohammad Saljoughian, and Hadi Shirouyehzad. "Importance-performance analysis of service quality dimensions for the customer groups segmented by DEA." *International Journal of Quality & Reliability Management* (2016)
- Das, Arijit, and Tirthankar Basu. "Assessment of peri-urban wetland ecological degradation through importance-performance analysis (IPA): A study on Chatra Wetland, India." *Ecological Indicators* 114 (2020): 106274.
- Galeeva, Railya B. "SERVQUAL application and adaptation for educational service quality assessments in Russian higher education." *Quality Assurance in Education* (2016).
- Go, F. , & Zhang, W. . (1997) Applying importance-performance analysis to Beijing as an international meeting destination. *Journal of Travel Research*, 35 (spring), pp. 42–49.
- Hanks, Lydia, Nathan Line, and Woo Gon Woody Kim. "The impact of the social servicescape, density, and restaurant type on perceptions of interpersonal service quality." *International Journal of Hospitality Management* 61 (2017): 35-44.
- Harahap, Dedy Ansari, Ratih Hurriyati, Vanessa Gaffar Disman, and Dita Amanah. "An Analysis of Service Quality using Importance Performance Analysis and Gap Analysis at a Commercial Bank in Indonesia." (2019).
- Haverila, Matti, Kai Haverila, and Jenny Carita Twyford. "Identification of key variables and constructs in the context of wine tasting room: importance-performance analysis." *International Journal of Wine Business Research* (2020)
- Hinderks, Andreas, Francisco José Domínguez-Mayo, Anna-Lena Meiners, and Jörg Thomaschewski. "Applying Importance-Performance Analysis (IPA) to Interpret the Results of the User Experience Questionnaire (UEQ)." *Journal of Web Engineering* (2020): 243-266.
- Indrayani, Lilin, Agus Haerudin, and Yudi Satria. "Quality Analysis of Implementation of Cleaner Production at Batik Industry Using the Importance Performance Analysis (IPA) Methods as a Waste Management Tool." In *Proceeding Book of Proceeding Indonesian Textile Conference: textile 4.0 clothing and beyond (international conference)*, vol. 3. Penerbit Politeknik STTT Bandung, 2019.
- J. Cronin and S. A. Taylor, SERVPERF versus SERVQUAL: Reconciling performance-based and perceptions-minus-expectations measurement of service quality, *Journal of Marketing*, vol. 58, no. 1, pp. 125-131, 1994.
- J. E. Bloise, W. B. Tankersley, and L. R. Flynn, Managing service quality using data envelopment analysis,
- Jaafar, Nik Azyyati Nik, Zarina Mohd Noor, and Mazlina Mohamed. "Student ratings of teaching effectiveness: An importance-performance analysis (IPA)." *Journal of Educational and Social research* 6, no. 3 (2016): 33-33.
- Karthiyayini, Nagarajan, C. Rajendran, and Munusamy Kumaravel. "Importance-performance analysis (IPA) for testing—and calibration—laboratories in India." *Benchmarking: An International Journal* (2018).

- Kevin, Christianto, Deny Deny, Martino Charles, and Fischer Daniel. "Detikcom Website Analysis with Webqual 4.0 and Importance-Performance Analysis Method." *International Journal of Open Information Technologies* 8, no. 5 (2020).
- Khalifeh, Ghodratollah, and Seyed Abbas Razavi. "Quality Assurance and Evaluation in Electronic Learning Using the Importance-Performance Analysis Model." *Interdisciplinary Journal of Virtual Learning in Medical Sciences* 3, no. 1 (2020): 41-50.
- Khalifeh, Ghodratollah, and Seyed Abbas Razavi. "Quality Assurance and Evaluation in Electronic Learning Using the Importance-Performance Analysis Model." *Interdisciplinary Journal of Virtual Learning in Medical Sciences* 3, no. 1 (2020): 41-50.
- Kim, Kyung-Ja, and Kanghwa Choi. "Bridging the Perception Gap between Management and Customers on DINESERV Attributes: The Korean All-You-Can-Eat Buffet." *Sustainability* 11, no. 19 (2019): 5212.
- Kim, Nan-Young, Gyu-Hee Lee, and Kyoung-Won Cho. "Analysis of Task Importance and Task Performance for Medical Insurance Review Nurses' Using the IPA Method." *The Korean Journal of Health Service Management* 11, no. 1 (2017): 43-53.
- Kukanja, Marko, and Tanja Planinc. "Toward cost-effective service excellence: Exploring the relationship between managers' perceptions of quality and the operational efficiency and profitability of restaurants." *Quality Management Journal* 27, no. 2 (2020): 95-105.
- Kukanja, Marko, Tanja Planinc, and Tadeja Jere Jakulin. "RESTAURANT MANAGERS' PERCEPTIONS OF SERVICE QUALITY: THE MEDIATING ROLE OF RESTAURANT SIZE AND SEATING CAPACITY." *International Journal for Quality Research* 14, no. 1 (2020).
- Kukanja, Marko, Tanja Planinc, and Tadeja Jere Jakulin. "RESTAURANT MANAGERS' PERCEPTIONS OF SERVICE QUALITY: THE MEDIATING ROLE OF RESTAURANT SIZE AND SEATING CAPACITY." *International Journal for Quality Research* 14, no. 1 (2020).
- Kumar, Surjeet, and Naveen Chachal. "Food Service Quality in IRCTC Food Outlets: A Study of Delhi (NCR) Region." *International Journal of Hospitality and Tourism Systems* 10, no. 1 (2017): 45.
- Kumar, Vikas, and Bikramjit Singh Hundal. "Evaluating the service quality of solar product companies using SERVQUAL model." *International Journal of Energy Sector Management* (2019).
- Kumar, Vinod, and Sushil Sharma. "Service quality and customer satisfaction in quick service restaurants (QSR'S)-A validity analysis." *International Journal of Management, IT and Engineering* 9, no. 2 (2019): 288-301.
- Kumar, Vinod, and Sushil Sharma. "Service quality and customer satisfaction in quick service restaurants (QSR'S)-A validity analysis." *International Journal of Management, IT and Engineering* 9, no. 2 (2019): 288-301.
- Kuo, Tsuang, Chih Ta Chen, and Wan Jung Cheng. "Service quality evaluation: moderating influences of first-time and revisiting customers." *Total Quality Management & Business Excellence* 29, no. 3-4 (2018): 429-440.
- La Fata, Concetta Manuela, Toni Lupo, and Tommaso Piazza. "Service quality

- benchmarking via a novel approach based on fuzzy ELECTRE III and IPA: an empirical case involving the Italian public healthcare context." *Health care management science* 22, no. 1 (2019): 106-120.
- Lee, K. A., and E. S. Lyu. "Importance-Performance Analysis (IPA) of University Foodservice Quality by Customer Group according to the Foodservice Satisfaction and Customer Loyalty." *Journal of The Korean Society of Food Science and Nutrition* (2019).
- Lettner, Miriam, Franziska Hesser, Barbara Hedeler, Peter Schwarzbauer, and Tobias Stern. "Barriers and incentives for the use of lignin-based resins: Results of a comparative importance performance analysis." *Journal of Cleaner Production* 256 (2020): 120520.
- Lovanda, PahlamardikaPratiwi. "THE INFLUENCE OF FULL SERVICE RESTAURANT ATTRIBUTES AND MILLENNIALS SATISFACTION TOWARDS REVISIT INTENTION OF TRADITIONAL PADANG RESTAURANT." PhD diss., Universitas Andalas, 2019.
- Martilla, John A., and John C. James. "Importance-performance analysis." *Journal of marketing* 41, no. 1 (1977): 77-79.
- Marumoagae, Malebogo, and JaloniPansiri. "The relationship between employee personal branding and customers' perceived service quality: An empirical investigation of the insurance sector in Botswana." *Botswana Journal of Business Volume* 12, no. 1 (2019).
- Matthews, Brian L., and Jamie L. Daigle. "USING GAPS ANALYSIS TO EXAMINE SERVICE QUALITY IN HOSPICE CARE DELIVERY." *International Journal of Business, Marketing, & Decision Science* 11, no. 1 (2018).
- McLeay, Fraser, Andrew Robson, and MazirahYusoff. "New applications for importance-performance analysis (IPA) in higher education." *Journal of Management Development* (2017).
- Mensah, Ishmael, and Rebecca Dei Mensah. "Effects of Service Quality and Customer Satisfaction on Repurchase Intention in Restaurants on University of Cape Coast Campus." (2018): 27-36.
- Mummalaneni, Venkatapparao, Juan Meng, and Kevin M. Elliott. "Consumer technology readiness and e-service quality in e-tailing: What is the impact on predicting online purchasing?." *Journal of Internet Commerce* 15, no. 4 (2016): 311-331.
- Nam, Seungju, and Hyun Cheol Lee. "A Text Analytics-Based Importance Performance Analysis and Its Application to Airline Service." *Sustainability* 11, no. 21 (2019): 6153.
- Nardi, Marcelo, Fabio Bulegon, Rodrigo Barichello, and Givanildo Silva. "Importance-Performance Analysis Of Project Management Tools In Agribusiness." *Revista de Gestão e Projetos* 10, no. 1 (2019): 51.
- Nathasya, Desryna. "THE ROLE OF DINESERV DIMENSIONS AND FOOD QUALITY ON REVISIT INTENTION MEDIATED BY CUSTOMER SATISFACTION: A CASE STUDY OF DUSUN BAMBU FOR COLLEGE STUDENT." PhD diss., President University, 2017.
- Ng, Martha Ng-Martha. "The effect of service quality on student satisfaction and student loyalty: an empirical study." *Journal of Social Studies Education Research* 9, no. 3 (2018): 109-131.
- Ng, Martha Ng-Martha. "The effect of service quality on student satisfaction and student loyalty: an empirical study." *Journal of Social Studies Education Research* 9, no. 3 (2018): 109-131.

- Palmer, Alicia, Suzanne Amaro, and Luisa Andreu. "An Importance-Performance Matrix Analysis of the Factors Influencing US Tourists to Use Airbnb." In *Advances in Tourism, Technology and Smart Systems*, pp. 67-76. Springer, Singapore, 2020.
- Park, Eunju. "A Study on the Case Management Practice Using Importance-performance Analysis (IPA)." *The Journal of the Korea Contents Association* 19, no. 1 (2019): 278-292.
- Park, So Hyun, Mi Ae Bae, So Hee Han, Si Yao Cheng, Sung Hoon Kim, and Kyung Ja Chang. "Consumption Patterns and Importance-Performance Analysis of Home Meal Replacements by Level of Taurine-Related Nutritional Knowledge in Korean Adults." In *Taurine* 11, pp. 205-213. Springer, Singapore, 2019.
- Phadernrod, Boonyarat, Richard M. Crowder, and Gary B. Wills. "Importance-performance analysis based SWOT analysis." *International Journal of Information Management* 44 (2019): 194-203.
- Potdar, Pavan Kumar, and SrikantaRoutroy. "Performance analysis of agile manufacturing: a case study on an Indian auto component manufacturer." *Measuring Business Excellence* (2017).
- Quality Management Journal, vol. 12, no. 2, pp. 7-24, 2005.
- Rašovská, Ida, Marketa Kubickova, and KateřinaRyglová. "Importance-performance analysis approach to destination management." *Tourism Economics* (2020): 1354816620903913.
- Rau, Hsiao-Hsien, Yi-Syuan Wu, Chi-Ming Chu, Fu-Chung Wang, Min-Huei Hsu, Chi-Wen Chang, Kang-Hua Chen et al. "Importance-performance analysis of personal health records in Taiwan: A web-based survey." *Journal of medical Internet research* 19, no. 4 (2017): e131.
- Saeidi, Sayyedah Parisa, Amran Bin Md Rasli, ParvanehSaeidi, Seyyed Alireza Saaeidi, and SayedehParastooSaeidi. "How Service Quality Results in Customer Satisfaction of Large-Scale Retailers in Malaysia." *Advanced Science Letters* 23, no. 9 (2017): 9050-9054.
- Saini, Sunita, and Rajbir Singh. "Service Quality Assessment of Utility Company in Haryana using SERVQUAL Model." *Asian Journal of Management* 9, no. 1 (2018): 702-708.
- Saini, Sunita, and Rajbir Singh. "Service Quality Assessment of Utility Company in Haryana using SERVQUAL Model." *Asian Journal of Management* 9, no. 1 (2018): 702-708.
- Saneva, Dushica, and Sonja Chortoseva. "Service quality in restaurants: Customers' expectation and customers' perception." *Age* 36 (2018): 12.
- Sen, Sankalpa. "Effects of country of origin on the relationship of service quality expectations and choice of banking brands." (2018).
- Sentosa, I. Putu Pranatha, Ni Made ErpiaOrdaniAstuti, and I. Made Elia Cahaya. "ANALISIS KEPUASAN MAHASISWA MENGGUNAKAN METODE IMPORTANCE PERFORMANCE ANALYSIS DAN CUSTOMER SATISFACTION INDEX." In *Seminar Ilmiah Nasional Teknologi, Sains, dan Sosial Humaniora (SINTESA)*, vol. 2, no. 1. 2019
- SERVQUAL approach, *International Journal of Public Sector Management*, vol. 8, no. 7, pp. 15-21, 1995.
- Sharma, P. A. N. K. A. J. "Service Quality and Customer Behaviour Intentions in Indian Telecom Sector." In *Proceedings of IEEEFORUM International Conference*, pp. 7-10. 2017.

- Singhal, Neeraj, Himani Gupta, and Garima Mittal. "Importance-performance analysis to identify effective learning approaches for sustainability in an Indian business school." *Vision* 22, no. 3 (2018): 276-283.
- Syarif, Ahmad. "The Measurement of Customer Satisfaction Index with Method of Importance-Performance and Gap Analysis." *Global Review of Islamic Economics and Business* 7, no. 2 (2019): 057-067.
- Tebai, Yohanes, Diah Ayu Maharani, and Anton Rahardjo. "Cross-cultural adaptation and psychometric properties of the Indonesian version of Servqual for assessing oral health service quality." *Journal of International Dental and Medical Research* 10, no. 3 (2017): 945-951.
- Tripathi, Gaurav, and Kartik Dave. "Exploration of service quality factors in the restaurant industry: a study of selected restaurants in the New Delhi region." *Hospitality Marketing and Consumer Behavior: Creating Memorable Experiences* (2017)
- Ulkhaq, Muhammad Mujiya, Abel Kristanto Widodo, Widhiyaningrum, Muhammad Faisal AfaYulianto, and Maria Olivia Gracia. "An integrated MS-QUAL and importance-performance analysis approach for assessing service quality of mobile commerce application." In *AIP Conference Proceedings*, vol. 2114, no. 1, p. 060001. AIP Publishing LLC, 2019.
- Vale, Laís Rocha, Larissa Alves Sincorá, and Letícia de Sousa Milhomem. "The moderate effect of analytics capabilities on the service quality." *Journal of Operations and Supply Chain Management* 11, no. 2 (2018): 101-113.
- Vieira, Elsa, João J. Ferreira, and Ricardo São João. "Creation of value for business from the importance-performance analysis: the case of health clubs." *Measuring Business Excellence* (2019).
- Wang, Zhong-Lei, Hou-Cai Shen, and Jian Zuo. "Risks in prefabricated buildings in China: importance-performance analysis approach." *Sustainability* 11, no. 12 (2019): 3450.
- Wu, Tai-Hsi, Shao-Jen Weng, Yi-Ta Lin, Seung-Hwan Kim, and Don Gotcher. "Investigating the importance and cognitive satisfaction attributes of service quality in restaurant business-a case study of TASTy steakhouse in Taiwan." *Journal of Foodservice Business Research* 23, no. 4 (2020): 263-284
- Wu, Tai-Hsi, Shao-Jen Weng, Yi-Ta Lin, Seung-Hwan Kim, and Don Gotcher. "Investigating the importance and cognitive satisfaction attributes of service quality in restaurant business-a case study of TASTy steakhouse in Taiwan." *Journal of Foodservice Business Research* 23, no. 4 (2020): 263-284.
- Yadav, Prema, Hemali Broker, and Mallika Babu. "Banking Services in New Millennium _Analyzing using SERVQUAL." *Studies in Indian Place Names* 40, no. 8 (2020): 309-318.
- Abdelaty, Yasser, and Emad Abdel-Aal. "Assessment of University Residence Food Service Using Importance-Performance Analysis (IPA): Student Perspective (A Case Study of Sadat City University)." *International Journal of Heritage, Tourism and Hospitality* 11, no. 1 (2017): 123-41