FACTORS INFLUENCING POTTERY INDUSTRY IN PENINSULAR MALAYSIA

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UNIVERSITY OF MALAYA

KUALA LUMPUR

2014

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THESIS SUBMITTED IN FULFILLMENT

OF THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

CULTURAL CENTRE

UNIVERSITY OF MALAYA

KUALA LUMPUR

2014

UNIVERSITI MALAYA

ORIGINAL LITERARY WORK DECLARATION

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ABSTRACT

This study has been conducted to investigate the impact of market status, government's initiatives, economic, social, ritual, and ecological factors, which fall into socio-economic and socio-culture trends, on the artistic quality of pottery production and the performance of potters. Thus, the present study aims to: (1) identify the influence of potters' characteristics such as gender, and marital status on selected types and techniques used in the pottery production. (2) to determine the impact of selected potters' characteristics (i.e., age, ethnic/race, career affiliation, and the regional differences) on different types and techniques used in the pottery production. (3) Finally, to predict a set of factors which are presumed to have an impact on the pottery production.

A quantitative method is employed to conduct this research by interviewing and distrubting self-administrated questionnaires in order to collect the information and data. Additionally, it is followed by "non-probability-judgmental" sampling as a technique. The technique of selecting samples has been limited to seven states in the Malay Peninsula. The two versions of questionnaires -English and Malay, were distributed upon the targeted population. They were 500 responses obtained. The units of samples were categorized as: (1) government sectors. (2) semi-government manufacturers. (3) private companies and/or individual outlets. The data analysis was conducted based on the following types of statistical tests, the T.Test, and one-way ANOVA. Additionally, Partial Least Square (PLS) software has been chosen to predict the extent of socio-economic and socio-culture impact of factors on certain types and techniques of pottery.

The findings of the current study have indicated that, with respect to gender, there is a significant difference in different groups of potters, who are involved in

certain types of pottery. This variance can be observed significantly in only groups of potters, who are using machines for certain techniques of pottery production. It is found that marital status has an influence on various groups of potters, with respect to certain techniques of pottery. In terms of ANOVA test, the results have shown that, there is a variance in age, and race of potters' groups in both types and techniques of pottery production. However, the aspect of career affiliation in different groups of potters has differed significantly in some selected types of pottery. In contrast, the techniques selected by potters did not vary significantly with career affiliation. Concerning the regional differences, it is found that, potters from different regions have produced different types of pottery.There has been no significant difference with respect to certain techniques of pottery production.

The results of Partial Least Squared have indicated that, the socio-economic factors have highly influenced the types and techniques of pottery production. On the other hand, the socio-culture factors that fall under social and ritual factors have influenced equally all types, and techniques of pottery production.

Based on the findings, the proposed structural model can determine the influence of various potters' characteristics on the pottery production. Moreover, this model could be used to identify market status, government's initiative, economic, social, ritual, and factors. Such factors could be also utilized as a guide for future studies in other realted fileds.

ABSTRAK

Kajian ini dijalankan untuk menyelidik pengaruh sosial dan ekonomi terhadap kualiti seni para pembuat barangan tembikar dan hasil seni buatan mereka. Oleh itu, kajian ini bertujuan untuk (1) mengenal pasti pengaruh faktor seperti jantina dan status perkahwinan pembuat barangan tembikar terhadap jenis dan teknik yang digunakan dalam pembuatan tembikar, (2) mengenal pasti kesan umur, bangsa, afiliasi kerjaya dan perbezaan wilayah terhadap sumbangan pembuat tembikar dari segi jenis dan teknik yang digunakan dalam pembuatan tembikar, dan seterusnya (3), untuk menentukan faktor-faktor yang mungkin mempengaruhi proses pembuatan tembikar.

Kaedah pengumpulan data dijalankan dengan menggunakan borang kaji selidik jenis sendiri urus (self-administered). Di samping itu, teknik pensampelan populasi juga digunakan untuk menentukan pensampelan tak berkebarangkalian-"pensampelan berdasarkan pemilihan". Teknik pemilihan sampel adalah terhad kepada tujuh negeri di Semenanjung Malaysia. Borang kaji selidik yang telah diedarkan kepada populasi target berjaya mendapat balasan daripada 500 responden; yang seterusnya dikategorikan kepada (1) syarikat badan berkerajaan, (2) pengilang badan semi-kerajaan dan (3) syarikat swasta dan / atau isi rumah. Data yang didapati dianalisis berdasarkan jenis-jenis ujian statistik berikut: ujian-T, serta ANOVA menggunakan perisian SPSS. Di samping itu, ‘kuasa dua terkecil separa’ (PLS) telah dipilih untuk melihat kesan sosio ekonomi dan sosio budaya terhadap jenis dan teknik pembuatan tembikar.

Hasil dari kajian ini menunjukkan bahawa terdapat perbezaan yang signifikan dari aspek jantina dalam kumpulan pembuat barangan tembikar yang berlainan, yang terbabit dalam suatu jenis pembuatan tembikar. Bagaimanapun, varians ini dapat dilihat dengan lebih ketara terhadap kumpulan pembuat barangan tembikar yang menggunakan peralatan mesin untuk teknik tertentu dalam penghasilan tembikar. Selain itu, taraf perkahwinan juga didapati mempengaruhi pelbagai kumpulan pembuat barangan

tembikar, terutamanya terhadap jenis teknik barangan tembikar. Malah, terdapat juga beberapa perbezaan yang boleh dilihat dalam jenis barangan tembikar yang terpilih. Hasil ujian ANOVA menunjukkan terdapatnya varians dari segi usia, bangsa kumpulan pembuat tembikar, jenis barangan tembikar serta teknik pembuatan tembikar. Perbezaan dari aspek afiliasi kerjaya dalam kumpulan pembuat tembikar yang berlainan pula adalah ketara dalam sesetengah jenis barangan tembikar yang terpilih. Sebaliknya, teknik-teknik yang dipilih oleh pembuat barangan tembikar adalah tidak banyak bezanya jika dilihat dari aspek afiliasi kerjaya. Dari segi perbezaan wilayah pula, pembuat tembikar dari wilayah yang berbeza didapati menghasilkan jenis barangan tembikar yang berlainan. Bagaimanapun, tiada perbezaan ketara yang didapati dari segi penggunaan teknik tertentu dalam penghasilan barangan tembikar.

Keputusan ‘ujian kuasa dua terkecil separa’ (PLS) menunjukkan bahawa status pasaran memainkan pengaruh yang jauh lebih tinggi dalam menentukan jenis dan teknik yang digunapakai dalam penghasilan barangan tembikar, berbanding faktor ekonomi dan inisiatif kerajaan (faktor sosio-ekonomi). Sementara itu, faktor-faktor sosio-budaya yang lain seperti sosial dan faktor-faktor ritual didapati meninggalkan kesan ke atas jenis tembikar dan teknik yang digunakan dalam pembuatan tembikar, melainkan faktor ekologi yang didapati gagal memberi sebarang kesan.

Berdasarkan hasil kajian ini, model struktur yang dicadangkan dapat digunapakai secara amnya bagi menentukan faktor-faktor yang mempengaruhi pelbagai aspek dalam proses penghasilan barangan tembikar. Malah, model konseptual dari kajian ini juga boleh digunakan untuk menentukan status pasaran semasa, inisiatif kerajaan, faktor-faktor ekonomi, sosial, ritual dan ekologi, dalam usaha menggalakkan industri pengahsilan barangan tembikar di Malaysia. Selain itu, model ini juga boleh digunakan sebagai panduan untuk kajian dalam bidang-bidang selain dari pada tembikar, di masa hadapan.

ACKNOWLEDGMENTS

All praises and thanks are due to Allah, the Almighty, for giving me the strength, courage, and patience to complete this work.

I could hardly find words to express my deepest gratitude to my supervisors, Dr. Zainal Abd. Latiff and Dr. Sabzali Musa Kahn for providing me with valuable guidance, advice, and inspiration to complete this research. I was very lucky to have been supervised by them. I have learned useful knowledge from them academic expertise and how to manage my time during my Ph.D program.

I would also like to convey my great thanks to Dr. Mohamed Al-baity, who is my co-supervisor for his aid in the data analysis, and his unending effort and advice. I also owe a great deal of thanks to my friends, especially, Noorhyati, and Nabilah sadeq for their collaboration and unending advice and help in the entire process.

I am grateful to my sponsor, the Yemen Embassy, who had provided me with financial support for my tuition fees.I would like to think the library staff of University of Malaya for their cooperation in supplying resources needed for my research work.

A very special gratitude goes also to my beloved brother, Redwan Al-dhamari for the continuous support, encouragement, and inspiration; they have made it easier for me to overcome all the difficulties I encountered in my endeavor in Malaysia. Last, but not least, this work could not have been completed without the love and support of my family members –my mother and father-who have motivated me to achieve my aims and to be steadfast in completing my journey.

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LIST OF ABBREVIATIONS

MS	Market Status
GI	Government Initiative
RF	Ritual Factor
SF	Social Factor
EcoloF	Ecological Factor
EconF	Economic Factor
Authen	Authenticity
Consum	Consume
Cost	Cost
Deponptt	Depending on Pottery
EcoloF	Ecological Factor
EconF	Economic Factor
Ethnicit	Ethnicity
FaciliPot	Facilitation of potters
FinanGo	Financial Government
Gend Var	Gender Variable
Gov Acti	Government Activity
Gov Initi	Government Initiative
IdenDisc	Identical Discrimination
Incom	Income
InteDisc	Intellectual Discrimination
Knowl	Knowledge
MS	Market Status
MemoFa	Member of Family
Order	Order
Plan	Plan

PottPord	Pottery Production
Profit	Profit
Promo	Promotion
RefDiff	Regional Different
RituDisc	Ritual Discrimination
RituFac	Ritual Factor
SocFac	Social Factor
TechnoPo	Technological Production
TrainCo	Training Courses
Typeo Po	Types of pottery
SoCorr	Social Correlation

CHAPTER 1

Introduction and Background of Study

1.1 Introduction

Studying pottery as a part of artificial ceramic has long been one of fundamental and primary concerns for the critics and artists. These concerns were therefore, concentrated on the events that led to evolution in the pottery styles (Watson, 1977).

A variety of pottery production techniques has a huge importance in the antique life, due to its inherent durability and protection provided by antique environment. Pottery production is one of the various successful ways, which has practically permitted us a glimpse of the wealthy artistic tradition. Accordingly, Malaysian traditional pottery therefore, could provide us a glimpse of the highly categorized stratum of Malaysian society, and historical and/or mythological events that sustained them (Redzuan & Aref, 2011).

The nature of ceramic has been apparently shown through several cultures and its affective role of establishing civilizations. Yet, pottery in the conventional Malaysian society is ethnically integrated with the political arena, power, and social prestige. Therefore, the integral feature of the aesthetic side of pottery reveals the cultural identity function within the political, social, and ritual arena.

Malaysian indigenous pottery is typically the antique symbols of the rural life. Among the concepts of diversity, creative, and originality, the Malaysian indigenous pottery, socially represents the perpetuation of the ancient and modern expressions, through the meanings of culture and identity. In addition, indigenous pottery adequately documents the humanistic cultural interaction and achievements. Thus, pottery has been subjected to include plenty of social and historical affairs, which have been heavily

focused by scholars in Southeast Asia, generally, and Malaysia, particularly (Books, 1995).

In conclusion, this chapter throws the light on the main idea of our study, which attempts to identify the mutual influences among potters with a set of external factors. Generally, these influences are reflected on the pottery products as a form of meaningful artistic metaphors through the potters themselves. In other words, this study, through the sequential chapters is aimed to measure the impact of external factors on pottery production, through several estimated variables. The flow of this chapter entails background of study, problem statement, research objectives, research questions, significance of the study, scope of the study, and limitations.

1.2 A Background about Malay Peninsula from Grographical and Social Aspects

The crucial point to be mentioned is that, pottery has been sociologically and historically regarded as the other face of antique life, which conveys the valued inherent symbols, which are interpreted through the historical events. Additionally, it is also essential to shed light on the profound corners of social life-style of Bedouin Communities in Malay Peninsula entirely (Dunn, 1970).

Generally, Malaysia contains mixture of several cultures; this compatibility in the variety of cultures brings out a wide arena of sequential social events (Miksic, 2003). Therefore, detecting such mixing and overlapping in the cultural, economic, and political aspects, which are considered as the reflections of social life, are indeed heavily focused by a lot of studies, related to folk handicraft, and could be summarized through a brief introduction of social events.

Historically, since the date of existence of British colonial rule in Penang in 1786 and in other parts of Malay Peninsula in nineteenth century, (Cowan, 1961), the Malay Peninsula has been accounting for one of famous and important areas in the emigration momvement. The major reason for emigration is to search for the labour

opportunities in the public works, and to establish strong primary production sectors (Shuhaimi, 1998). Indeed, the wide range of territories in Malay Peninsula, before the European occupation, was ruled by several Malay sultanates that originated during different periods in the west coast, particularly around Malacca (Saw, 2007b).

Malay Peninsula has been in contact with the numerous islands in the Indonesian Archipelago since the ancient time. Thus, Sir Vijaya kingdom in Sumatra is counted as the earliest contacts recorded from 6001-1,000 A.D. The capital of Sir Vijaya-Palembang in south Sumatra- (Moore, 1998) has imposed its dominance on several parts of Malay Peninsula within several periods. These periods were the critical times in Malay Peninsula, which led to a phenomenon of multi-races in the region; as this region has received new comers such as settlers and traders. In addition, during a time of Majapahit Empire, the MalayPeninsula was gradually pursued by Javanese contacts and immigration 1,293-1,520 A.D (Hall, 1955).

The first European foot, which accessed the country in 1511, was Portuguese. Portuguese have captured Malacca and sway until the Dutch out powered them in 1641 (Saw, 2007a). Dutch dominated Malacca until the late eighteenth century when British took over. Moreover, Francis, based on the principle of the East Indian Company, also captured the island of Penang. In 1826, the three British possessions of Penang, Malacca, and Singapore were united into one administrative unit known as Straits Settlements (Arles, 1971). Surprisingly, the influences of British did not only confine in those districts, but also attracted the four central states of Perak, Selangor, Negri Sembilan, and Pahang, by mending of hinterlands Malay states and solving the internal affairs. In 1895, the British achieved a huge success in assembling those states as Federated Malaya States (Saw, 2007a).

In 1948, the Malayan union was regarded as Federation of Malay. According to this constitutional framework, Malaysian rulers got complete sovereignty over the nine

Malay States. Whereas, the British colony continued to administrate the other territories, such as, Penang, and Malacca; however, Singapore was separated and governed by the federation of British colony (Baker, 2008).

On 1st August 1957, the federation of Malaya was manifested completely as independent country (Baker, 2008). Malaya's federation was made on 16th September 1963 to constitute a larger political unit of Malaysia, including the eleven states in the former federation, as well as the internally self-governing colony of Singapore, and the two colonies of Sarawak and North Borneo.

By pursuing the previous events of Malay Peninsula, the history has revealed the significant facts of economic and social relationships, which connected the territories of Malay Peninsula with adjacent areas, through trade and exchange. Hence, it is thought that, the trade and exchange (Garnsey *et al.*, 1983), as well as the spread of several Austronesian language populations were the major reasons for the widespread occurrences of different and new cultural phenomenon, such as, pottery, earthenware, and polished stone in both, Malaysia and entire Southeast Asia (Leng, 1965).

In fact, the trade and exchange of commodities are usually considered as fundamental bases, for enhancing the economy and speeding the cultural diffusion in the maritime peoples of islands Southeast Asia (Bellwood, 2007). Thus, the apparent evidences of cultural interrelationship processes, historically, attest that Malay Peninsula and Borneo in terms of the patterns of life and the potters' preference have been intendedto settle down in the valleys, river deltas, and long coastal of richer ecological niches, stretching on the east and west coast of Malay Peninsula (Harrisson, 1964).

Pottery as a part of material culture was often mentioned by archaeologists through Austronesian expansion in Taiwan, Philippines, and Borneo. Hence, undoubtedly, appearance of pottery as a material culture phenomenon, particularly in

parts of Malay Peninsula came from the immigration of southern Philippines to Borneo, and by bringing a material culture of pottery (Chia, 2005). Indeed, the presence of overlapped Austronesian culture in Borneo and Malay Peninsula has contributed much for diversifying the pottery based on the differences of cultures and environment (Ellen & Glover, 1974).

1.2.1 A Brief Background of the Georaphical Location of the Field-Work Sites

The geographic-environmental description is designed here to give an overview of the selected areas, in terms of porcelain, and to demonstrate the geographic location of west coast districts of Peninsula Malaysia, such as, Perak, Penang, Johor, Kedah, and so forth. This section has been drawn for explaining the geographical and environmental influences on the west coastal areas, which in turn are thought to have prominent impacts on potters.

Perak valley has been mainly recognized as famous and central city of pottery production, which is a significant part for original pottery among the states of Malay Peninsula. Perak as a key state for manufacturing pottery comprises four districts that are consecutively situated along the banks of Perak River. The first district is located at Lenggong in Upper Perak. The second is at Sayong near Kuala Kangsar, the third is at Pulau Tiga in Lower part of Perak, and the last is in Kota Tampan (See Figure 1.1), as the later forms a significant reference site for Palaeolithic period, which has been mentioned by Zuraina (Bartstra *et al.*, 1977; Majid, 1991; Majid & Tjia, 1988) in her recent exploration. She has stated, “Kota Tampan is a district, which is considered as Palaeolithic workshop on the shore of an island surrounded by Paleo-lake” (Simanjuntak *et al*., 2001, p. 116).

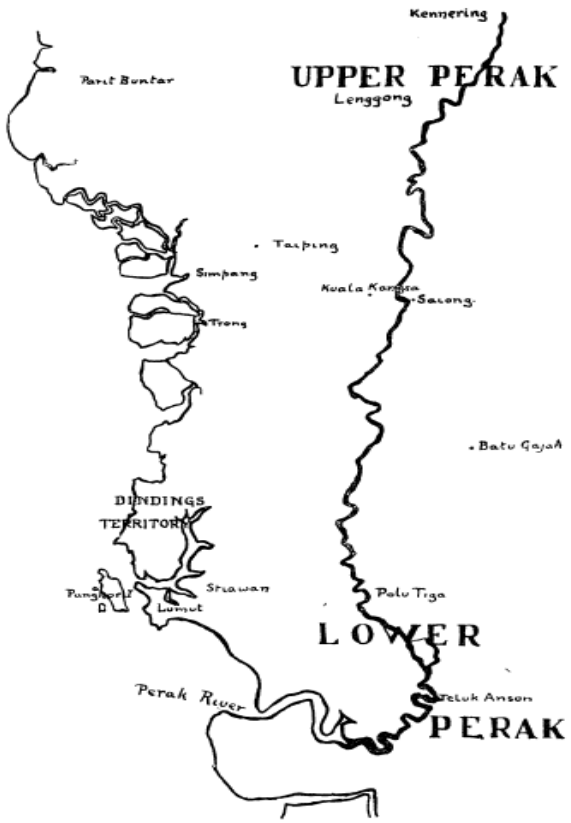

Figure 1.1: Outline Graphical Map of Perak District, Displaying the Places of Aggregation of Pottery (Wray, 2010).

The interior districts of Perak have been historically remarked as active members among the districts of Malay Peninsula, as it regards the second largest state in Malay Peninsula. Yet, geographically Perak from the North is bounded by Kedah and Thailand; however, from the Northwest it is adjacent to Penang, Kelantan, as well with Pahang from the East. Additionally, Perak valley is neighboured with Selangor from the Southward, and lies in the Strait of Malacca from the West. Yet, Kuala Kangsar is recognized as the royal town of Perak, and Ipoh as its capital city and administrative centre.

Additionally, Johor is the second district, included in the fore list of this research's location. Johor Baharu or Johor Bahru is categorized as the second most populous city in Malaysia and Southern Malaysia (Population and Housing census of Malaysia, 2010). The importance of Johor lies in what has been famed within industrial,

commercial, and tourism hub of Southern Malaysia. Accordingly, Perak and Johor are counted as the biggest industrial centres; therefore, they had occupied considerable position in most parts of data collected. The population of Johor district was approximated as 1,386, 569 in the census conducted on 2010 (Thomas, 1982). Thus, the Malays are the most populated race in such state, where the ratio is roughly 47.5% (Taburan dan Ciri-ciri Asas Demografi, 2010).

Penang is one of smallest state in Malaysia, which stretches over the northwest coast of Malaysia Peninsula across the Strait of Malacca. It is the neighboured of Kedah in the North and East, and with Perak in the South. However, Penang is considered as a small city, but it likely possesses high urbanized and industrialized regions, and it is regarded on the most sophisticated and economically important states in the country. Interestingly, its heterogeneous population is known notably through the diversification of material culture, such as, language, ethnicity, and religion (Raimy, 2002).

Kedah has been renowned by the popular title "Darul Aman". The city of Kedah lies in the Northwestern part of Malay Peninsula. It is formed of mainland and Lingkawi. Kedah is neighboured of Perlis and shared broadly with Thailand in the provinces of Yala and Songkhla from the North part of Kedah. It also borders the state of Perak in the South part and Penang in the Southwest part (Lum, 1995).

Malacca is counted as one of the smallest Malaysian states, as well located in the Southern part of Malay Peninsula. It is located near to the Strait of Malacca. Geographically, it borders the state of Negeri Sembilan in the Northern part, and Johor in the Southern part. It is noteworthy that, Malays are the most dominant residents of Malacca (Ricklefs, 1991). Negeri Sembilan is one of Malaysian's thirteen estates. It starches along with Western coast of Malay Peninsula. Thus, it borders Kuala Lumpur from the south part and Selangor from the North; as well, it is neighbouring with

Pahang in the east and with Malacca and Johor in the Southern part (Yaakup *et al.*, 2006).

Kuala Lumpur is the federal capital and most populated city in Malaysia (Population and housing census of Malaysia, 2010). Economically, it is the most growing state in the country in terms of urbanization and socio-politic and economic hubs. Kuala Lumpur is therefore the most known cultural, economic, and financial centre in the country, due to its prominent position of capital city and the main administrating state. Geographically, it is deemed an enclave into the state of Selangor that is located in the central west coast of Malay Peninsula (Andaya & Andaya, 2001, See Figure 1.2).

Figure 1.2: Malay Peninsula Districts Shown on Malaysia's Map, Taken from: http://www.malaysiavacationguide.com/malaysiamap.html

1.2.2 A Brief Background of Social Relationships in Malay Peninsula's Society

In context of social correlations shaped in Malay Peninsula, entirely, we strive to display relentless efforts in order to clarify the social relationship ruling Malay Peninsula. These efforts are directed as prelude to prove the external factors, social relations, and cultural diffusion, which affect the pottery production.

Initially, the depiction of local social contacts is clarified through the relative distribution of population living in Malay Peninsula, and through the geographical divisions of cities, which assists to refine the commercial orientations of inhabitants occupying Malay Peninsula. The local social divisions of the diffusion and contact population over Malay Peninsula are demonstrated through some linkages, for example, from the earliest time of human inhabitation, the inhabitants of Northern areas had contact with the people of what are now Burma and Thailand. As well, those who are living in the southern parts of Peninsula had contacts with people in the nearby coasts of east Sumatra and probably west Java and west Borneo. Furthermore, dwellers in the coastal areas of Perak, Malacca, and Penang were in contact with peoples in the nearby islands of what are now the Southern Philippines and Sulawesi as well as with those across the South China Sea in southern Vietnam, and Cambodia. The inhabitants of Johor probably also had contact with settlers in areas of Sumatra.

In contrary, the internal influences combined with the external contact are all shaped strategically as a midway to interchange the trading of goods/products among Malay Peninsula with China and India. Thus, according to these explanations, we can claim that, the two types of social contacts would have influenced the pottery production through the phenomenon of mixed-cultures, social customs, and religions. For instance, cultures of Hinduism and Buddhism were left and found as artefacts and

customs, which are persuaded by the cultural traces absorbed evidently into local folkways (Munan, 2001).

1.3 A Background of the Factors That Influence Pottery Production in Malay Peninsula

Malay Peninsula society has been shaped through a set of influential dimensions, which in contrast have affected on the nature of society from different trends, economically, socially, and religiously. On the other hand, such stimuli of societal interaction have direct impact on the productive process. Generally, the recovery of economic in the Malaysia's society is affected by the centres of power to some influential cities, such as, Perak, which is significantly deemed as the economic engines of tin mining and rubber tapping, and handicraft industries as well. In addition, the industry in Lenggong valley has in turn deepest roots of impact on the Malaysia's economy over years. Thus, it is worthy to know that, Malaysia's economy fundamentally stands on the rare timber existing in Malaysia Peninsula. However, Malaysia is not solely outperformed in their economy in rubber and palm oil industries, but also has attained prominent success in the handicraft industry in 1986 (Seaward, 1987). The high ratio of Malay Peninsula's population has had a disproportionately huge impact on the evolution of modern Malaysian lifestyle (See Table 1.1); in addition to the strategic geographic position of Malay Peninsula, that has put it in the centre of concerns (Richmond, 2010).

In the context of agricultural significance, the point of concern in the Malay Peninsula has oriented towards cultural diversification in respect to the locations. For instance, the coastal villages, located on sandy soil, would be assigned for coconut growing and other related activities. Alongside, in remote past, the coastal folk regions had gained an experience for enhancement of Padi Paya (a name of swamp rice), where

such experience has coincided with the rituals of pottery production. In contrast, the settlers of interior or inland *"Padalaman"* would have their ancestral land, while other people have engaged in rubber and producing products of pottery. The interior regions of Malay Peninsula have also used to be the home of Padi bukit or hill padi that are the main sources used in pottery (Ibrahim, 1995).

Yet, the coastal part of Malay Peninsula is always a distinctive station for changes coming from the seaside, such as, Perak, Kedah, and Melaka, which are involved through the seaborne trade with Indian, Chinese, and Arab traders. Furthermore, the later could change the trends of the society, by bringing their religion and traditions, and virtually impact on the traditional industries in the regions of Malay Peninsula. According to Moore & Saleh (2002), we can elucidate the importance of selecting these states as key sites of pottery production in Malaysia holistically.

Table 1.1: Population-Rates of Various States in Malaypeninsula.

Rank	State	Population
1	Selangor	5,411.324
2	Johor	3.233.434
3	Sabah	3.120.040
4	Sarawak	2,420.009
5	Perak	2.258.428
6	Kedah	1,890.098
7	Kuala Lumpur	1,627.172
8	Penang	1,520.143
9	Kelantan	1,459.994
10	Pahang	1,443.365
11	Terengganu	1,015.776
12	Negeri Sembilan	997, 071
13	Melaka	788.706
14	Perlis	227.025
15	Labuan	85,272
16	Putra Jaya	67.964

Demographic Statement of Malaysia, 9 February 2007 – Statistics Department, Malaysia – Demographic Key Rates.

1.4 Problem Statement

Malaysian society as a conventional society is distinguished by the characteristic of diversity, which indeed interplays with all patterns of life. Yet, the aspect of diversity has sustained effect on the various dimensions of social life, which have been illustrated in detail by a set of essential points.

Economically, Malaysian pottery production has not long been taken into account as critical means for recovering the public economyin Malaysia. It is may be due to, (1) the low density of potters'rate, which are activily involved in the pottery crafting in the Malayisa society; (2) the limitation in the pottery production technology; (3) the lack of revenues that are gained from this antique industry, (4) and most importantly, the government and potters' unwariness toward the factors that stimulate the potters' performance and enhance the quality of pottery. Therefore, confirming to the above assumptions, thepotters in Malaysia are considered as the producers of lowest income rate in the society, as opposed to other producers in Malay Peninsula. Acordingly, this economic status of pottershas pushed them to hire their member of family, in order to increase the quantity of pottery products and to enhance the quality of pottery. As a result, size of family is considered an effective factor for developing the quality of pottery in the conventional country such as Malaysia.

With respect to the ethnicity at the ecological perspective, Malaysia's population, who are distinguished by different waves of ethnical races (54% of ethnic Malay, 43% of Chinese, and the remainder is Indian with a small number of aboriginals) (Bronitsky, 1986), have been characterised by different identities. For instance, during the British Colony, Malaysia has witnessed observable presences of Chinese and Indian entrepreneurs in the field of pottery production; while this situation turned after independence in the 1957; whereby, the ethnic race of Malay group has become the dominant majority of entrepreneurs (Mutalib *et al.*, 1994). However, unfortunately

Malay group often attempts to mimic the Modernist style in their potteryproducts (Ashby & Johnson, 2003; Barbour, 1990). Hence, it is appearent that they have lost their fingerprint of the traditional identity in their pottery. Therefore, this might sometimes bringea negative impression of existence no harmony betweendifferent identities of Malaysia's potters and their pottery products. Therefore, this study has been designed to fill theethnic diversity'sgap and to highlight the role of maintaining authentic trait in their pottery products (Holt, 2005).

1.5 Research Objectives

i. To examine the impact of gender, and marital status among potters' groups on the types and techniques in the pottery production.
ii. To determine the effect of age, race, career affiliation, and regional differences among the potters' groups on the types and techniques in pottery production.
iii. To predict the impact of market status, government's initiative, social, ritual, ecological, and economic factors on diversifying the types and techniques used in the pottery production.

1.6 Research Questions

Searching the supported inferences in functional analysis requires existing strong norms drawn in the plan of research, in order to answer the research questions below:

R.Q.1 How would the differences among the potters' groups in terms of gender and marital status influence selected types and techniques that are used in the pottery?

R.Q.2 How would the differences among the potters' groups in terms of age, race, career affiliation, and regional differences affect selected types and techniques that are used in pottery production?

R.Q.3 What are the factors that have an impact on the types and techniques of pottery production?

1.7 Significance of the Study

This study approaches the different issues of pottery manufacturing, which strives to verify the correlation of spatial, temporal, and social factors with the potters and pottery production; and as well as to identify the stimuli posed underneath diversification of pottery industry in the selected states of Malay Peninsula.

This study is built on intensive efforts of individual viewpoints that based on previous theories. It is considered a most useful resource for remedying several specialized issues of pottery manufacture that can be measured on other relative industries, such as, ceramic, stoneware, porcelain etc. Current study strives to present some perceptions of factors, which are thought to impact on pottery provision. Additionally, the various concepts of postulated factors are directed to refine the potters' knowledge through the variable events in the socio-economic life.

The importance of this study appears within the multidisciplinary-approaches, such as ethno-archaeology, anthropology, and uncertain aesthetic approach, to subtract the relative issues towards the pottery production. Present study would significantly contribute in enriching the pottery as a kind of artistic product, through a set of influential factors affecting on the style of pottery. Furthermore, this study displays the activities and cultural changes of society, in order to contribute in the meaning of society through considering pottery production issues. Thus, the current study is radically derived from cultural materials, which indirectly contribute towards constructing multiple-concepts of theoretical framework.

This study is anticipated to hold unique significance among different fields of folk-art. Alongside, it approaches the several implemental themes, such as, the demographic, economic, social, and environmental issues through the pottery

production. Yet, in the current study, samples have been selected from various states to represent the huge survey conducted. Furthermore, this study is expected to be one of significant studies, designed to concentrate on manifold relations oriented, implicitly, towards the development of the pottery production. This study contributes to enrich the knowledge of productive process for exclusive elite society of Malaysia, such as, potters. As well, it is designed to effectively integrate the potters into governmental programmes that are assigned for improving the heritage industrial and/or folk arts.

1.8 Scope of the Study

This study is typically designed by combining the scopes that directly attribute into pottery production as humanistic phenomenon, and assist to find intellectual interdependence, accordingly. The scopes of study are employed to identify the reality of the hypotheses, which indicates a relationship between factors that impact potters in terms of the pottery production. Examining several theories, which have been installed to correlate the changes appearing in the way of pottery manufacture, is one of scopes fulfilled in this research.

The analytical method has been used through phases of research, to introduce several threads, addressing the pottery issues and the diversity of technology used in pottery production. We have also used description method for giving a large scale of accurate information taken from the folk potters themselves, and describing the pottery attributes recorded for exploratory purposes.

In this study, we have used survey as an effective tool for collecting data and interview different producers/folk potters closely. Eventually, this study has also been partially designed on historical scope, to obtain the ethnographic information to be documented as references to support the assumptions in some cases, where needed.

1.9 Outline of Thesis

This thesis covers several structures according to its various chapters, illustrated as following: Chapter (1) describes the background of the research topic; including introduction, problem statement, and the significance of study, objectives, research questions, and finally the outline of study.

Chapter (2) presents the background of the people of Malay Peninsula and an ethnographical overview and lifestyle as the first part of the literature review. Literally, the chapter will present the review of socio-cultural and socio-economic development, and pottery technology, based on the interpretations of literal data generated from previous studies conducted in the field of pottery. The second part of the literature review is regarded as a continuation of the literature review extracted from the theoretical backgrounds of relevant works of scholars, who have investigated the technology of the pottery techniques in the Malay Peninsula's pottery.

Chapter (3) illustrates the method being used in this study and the most significant threads are necessary to display, in order to support the combinations of hypotheses drawn. A set of instruments used for facilitating the data collection has also been illuminated.

Chapter (4) describes the theoretical strategy and data collection in the research, which has been developed to achieve the objectives. The theoretical procedure begins with processing strategy to produce different types of analyses, resulted from tangible observation, which also depend on summary of the set of theorems presented in technological, archaeological, and ethnographical analysis.

Chapter (5) contributes the future statement of Malay Peninsula pottery production, with futuristic depiction of Malaysian pottery products, including with summary of challenge and development of pottery production in several states of Peninsula Malaysia.

The flowchart in Figure 1.3 below is designed to illustrate briefly the breakdown of all chapters. However, the schame of the thesis is initially illustrated by general design of study as shown in Figure 1.4, and eventually it is followed by the detailed-design shown in Figure 1.5 to clarify precisely the study objectives in two stages.

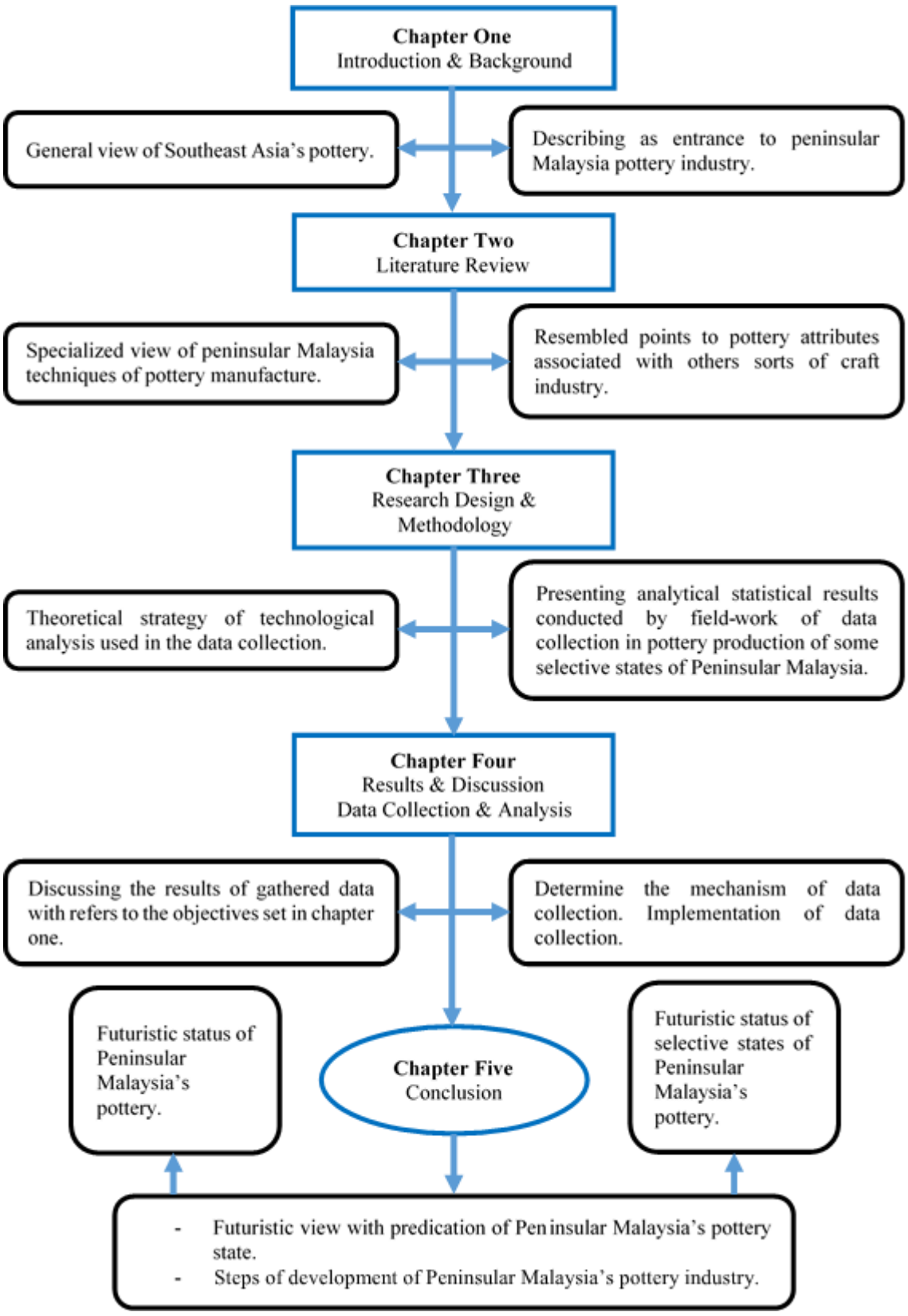

Figure 1.3: Flowchart of Overall Structure of Current Study.

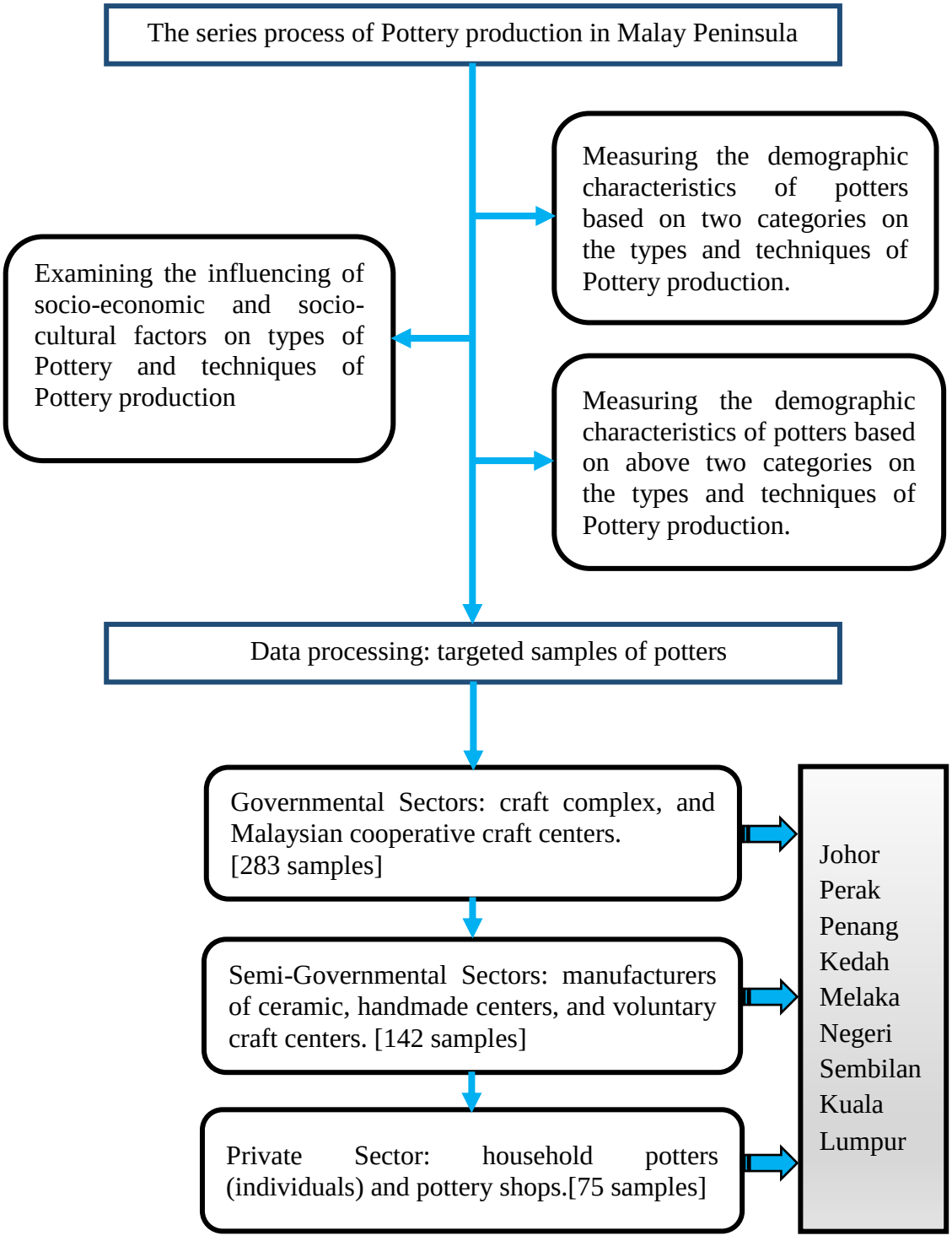

Figure 1.4: General Design of Study Explains Objectives and Unit of Samples in the Thesis.

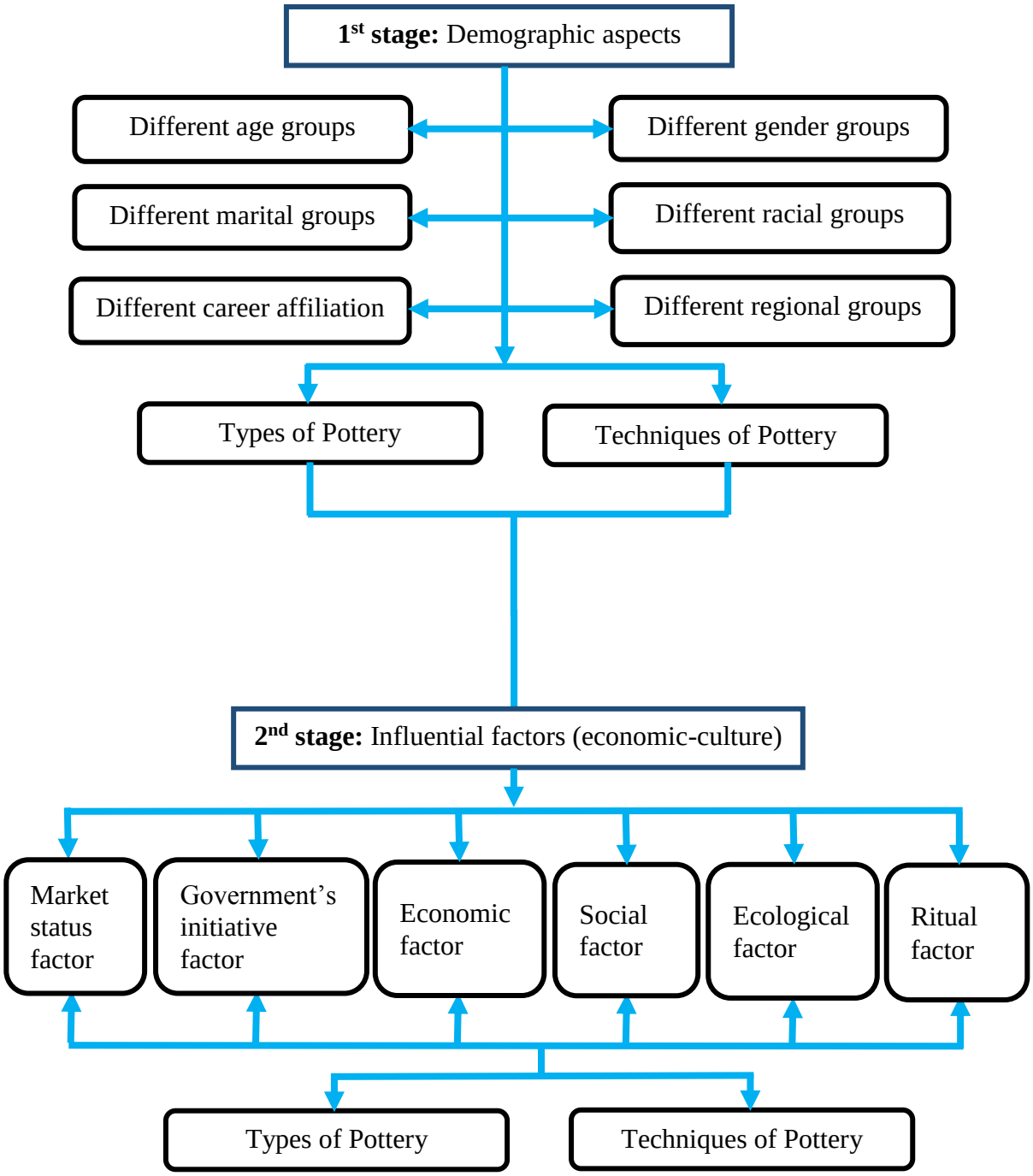

Figure 1.5: The Detail of the Study Design Made in Two Stages of the Objectives.

1.10 Summary of Chapter

This study addresses the major issues that are related to potters and pottery production, passing on the pottery industry (attribute-based industry in a particular case) in most sites of Malay Peninsula. Ethnical and anthropological constructions are one of fundamental threads used to handle ethno-archaeological and esthetical approaches. In this research, set of attempts are directed to reveal the variables and most influential factors affecting pottery production in many traditional sites of Malay Peninsula, which extend from north to south portions of Malay Peninsula. This current chapter had introduced pottery production and research strategy, and presented a brief introduction about historical and geographical significance of research's sites with a glimpse of some studies introduced, in order to get a better understanding of cultural affairs and social concepts, which may have affected on the pottery industry.

A general plan had been employed in such research, in order to explain the main aim of current study, and other objectives are designed to cover all parts of study, this includes a broad background of salient point of history and characteristics of Malay Peninsula. All issues, which are aimed to be handled in this research, are intended to address the traditional pottery characteristics; whether directly or indirectly. Different purposes on making traditional pottery is based on effective and cognitive factors, and is constituted through whether social influences that are gained from the society itself or economic, geological, ecological affections. Yet, addressing such factors assist to develop a stronger sense of ceramic production discipline. Therefore, this study aims to realize the intrinsic meaning of pottery production and value of traditional craft.

CHAPTER 2

A Reviewof Ethnic and Social Aspects with the Characteristic of Pottery Production

2.1 Introduction

Craft-based creative skill is a mean used in most ethnographic studies to draw the concrete strategies of organization in pottery production. Thus, the creativity in craft is assigned to identify the organizational behaviours of potters. Such approach was elucidated by Rice's theory (1987) that "The relation between archaeological and ethnographic studies of the economics of pottery production has been limited by the lack of common analytical units and behavioural concepts that can be addressed by both disciplines" (Rice, 1987, p. 130).

The concept of organization of production is broadened by the precise definition of indigenous culture, the way of communication, and the impact of cultural development that is associated with Orang Asli's culture and the pottery manufacture implicitly. Thus, an introduction is given as entry for the literature of previous studies conducted in various issues of pottery production generally.

Particularly, within the frame-based of pottery production, there appears a range of variability that is observed commonly in human motives and their interaction with the nature. Thus, the cultural ecology is an indicator of variability observed in potter's environment.

Yet, the breakdown of this chapter is directed to achieve, (1) classifying the categorical groups of indigenous potters represented as tribal potters, (2) demonstrating the social relationships recognized to figure out the social behaviour of Malay Peninsula

in the population of Orang Asli, and (3) illuminating the impact of social relationships on the Malay Peninsula's pottery as a member of indigenous potters.

In conclusion, this chapter concentrates on Malaysian social lifestyle from several approaches, which overall; fall into two perspectives -ethnographic and artistic- in order to review social relationships in the Malaysia society.

2.2 Malaysian People's Life-Style and Ethnographic Principles

The significance of social relations, which might reflect similar characteristics of Malay Peninsula, is often embedded in ethnographic field. Therefore, the precise definition of ethnicity in the concept of Orang Asli is often symbolized by archaeological record. Thus, among these studies Hutchison study (Schermerhorn, 1996) which represent the term of ethnicity by a relevant sense of kingship, common culture, and group solidarity. However, a further definition of the term stated by (Bates, 2000) is derived from broaden range of societies. Thus, these societies have been built based the shared ancestry, history, settlement, and migration, which are mainly considered as result of political or economic passages (Bates, 2000). Schermerhorn (1996) described ethnic group as "A cult within a large society having real or putative common ancestry, memories of a shared historical past, and a cultural focus on one or more symbolic elements defined as the epitome of their people-hood" (Schermerhorn, 1996, p. 13).

Additionally, Tonkin and McDonald (1989) in his anthropological study provides a new anthropological approach, which is contextually trained to examine the subjective nature of ethnicity. Hence, ethnicity in his study was measured based on the cultural traits such as language, religious, customs, and pigmentation. However, a specific definition of ethnicity in Malay Peninsula is expressed by Andaya (2002) as a

background of language, religious, custom, and geographical place of origin that are ruled by most dominant ethnic groups such as Malays, Chinese and Indians.

Chen (1998) provided a wonderful interpretation of Malaysian indigenous peoples that are represented by "Bumiputera[1]" word. "Bumiputera" is attributed to indigenous people of Malaysia who occupy approximately 61% of the total population and contains different ethnic group such as Malays, Chinese, Indian, Orang Asli, and the indigenous peoples of Sabah and Sarawak (See Figure 2.1).

Figure 2.1: Different Ethnic Groups of Malaysians.
http://www.globalization101.org/what-malaysia-thinks-about-globalization-2/

2.3 General Development of Demographic Style of Life in Malay Peninsula

Studying pottery in domestic community such as Malaysia is often built upon cultural changes and divisions of local society that are most societal important element of Orang Asli. The significance of Orang Asli is amplified with conversion events that have been embracedby emergence of Islam. Some of the Orang Asli has converted to

[1]***Bumiputera*** or ***Bumiputra***, is a Malay concept that is rooted from *Sanskrit* word that is literally translated as "son of soil" or "son of earth".

Islam, while some others maintain their Christian identity; despite some of Christian who lived near the villages of Malay, have adopted much of Malay ways of life (See Figure 2.2). Therefore, their generations have managed to learn Bahasa Malayu. The tribes of indigenous Orang Asli are often skilled people in hunting while some other is creative craftsmen who produce fine wood carvings (See Figure 2.3). Hence, the samples of pottery, which have been described by the archaeological study of (Martinez-Carrillo, 2008), are strong evidence for recognizing the steps taken to define cultural development; and sociologically these steps would assist to determine the functional uses of areas.

Figure 2.2: The Traits of Orang Asli People Living in Most Conventional Part of Malay Peninsula.
http://www.mpi.nl/departments/language-and-cognition/fieldsites/semai

Accordingly, the development of tribes and their more complex social networks have resulted from a number of interrelated variables. These include an increasing dependence on horticulture, increasing residents, population growth, increasing uncertainty and stress, and increasing competition (Braun & Plog, 1982; Brumbach,

1985; Kaiser & Voytek, 1983). All mentioned themes associated somehow with the economy of livelihood. Economy is the main engine, which is used to raise their subsistence-economy.

Figure 2.3: An Orang Asli with His Musical Instrument.
http://post-card-diary.blogspot.com/2011/09/orang-asli-playing-nose-flute.html

Sorensen's statement is clear evidence indicates to the nature of subsistence-economy in the remote or tribal similar areas; Sorensen presumed that: "The people probably lived in small groups, possibly in houses built on piles. Their economy was based on some agriculture and little pig breeding, supplemented by hunting and fishing; and they supported it sometimes by handmade products" (Sorensen, 1967: 49). As sequence, configuration of trial's life is based on a set of factors such as economy and social factors that possess more highlighted role of enhancement tribal groups in peninsula Malaysia.

2.3.1 Economic Development in Malay Peninsula's Life-Style

Malaysia entirely has been shaped with aspiration towards portray for being agricultural country. With passing time, country appeared to reform again. Malaysia commonly in the context of economic began to emerge as an industrialized country

starting from a period of 1990s which most industrial sectors are governed under a careful administration of its government (Massey, 2002).

Lynch *et al*., (1992) in his study, which is a character of the socio-economic system established by British, denotes that chief races have controlled Malaysia. Such races have been divided and occupied as assigned to them. Consequently, each division falls under certain rulers. For instance, Malaysia was monopolized to occupy the rural areas; while, China was specialized for a comprehensive economic. Therefore, those two generations occupy the urban areas. Lastly, Indian race associated typically with the rubber states.

In context of tribal economic, the holistic depiction of tribal organization is assumed mostly to tide with rising rate of reliance on horticulture. Accordingly, the change is about a combination of factors causing the gradual transformation. Despite, it was further believed that the sudden transformations drove to immediate acceptance and profound changes that occurred forthe purpose of settling. Thus, the gradual adaption, which coincided with the phenomena of cultivation plants, was set up into existence of subsistence conditions that may bring out a few chief changes in settlement (Brown, 1977).

From other view, Malaysia (1992) in the report presented for studying the environmental displacement in Malaysia, it is proved that, social lifestyle possesses a huge role for determining the economic situation of natives or indigenous tribal people. He illustrated that tribal people has habited in the rural regions of peninsula Malaysia and relied on the nutritional resources of forests. Additionally, they depend in their economic on hunting and exploit collecting the rattan, bamboo and swapping palms. This emphasizes thatthe economic source of indigenous pottersgains from the trade of jungle products and the fruits that are gathered from the forests (See Figure 2.4).

Figure 2.4: Orang Asli of Malay Peninsula
Taken by Colin Nicholas the Principle of Orang Asli Concerns Centre.

Predictably, Moore (1998) illustrates the economic situation correlated with the changes occurred in peninsula Malaysia's agriculture such as (corps products of rice and millet). This phenomenon has been emphasized notably through emigration movement from Southward Thailand into Peninsula Malaysia. He states that a number of sedentary villages in Malay Peninsula tend economically to make burnished (See Figure 2.5) and cord-marked pottery, similar to that found in sites as far north as Kunchanaburi in central Thailand (See Figure 2.6). At the same time, he linked such archaeological discovers of cord-marked pottery to its role of enrichthe economic situation in west peninsula Malaysia. This reinforces the belief that local industry such pottery production has strong influenced the economic status.

Figure 2.5: Burned-Pottery Produced in Perak State-Ipoh Region
Size: 10.5X10.5cm.

Figure 2.6: Cord-Marked Pottery, Returns to the Kunchanaburi in North Thailand in Neolithic Period 4800-3600 BC.

2.3.2 Social Development in Malay Peninsula's Life-Style

In pre-modern times, environment and mode of lifestyle had a great role affects on the social organizations, and shapes the way individually to achieve the interaction between each other. Social systems were perhaps less prone to adaption. However, individuals could withdraw and move to other systems through neither adoption nor marriage. Additionally, distinct social system and religious beliefs are evident in the territories, which now make up Malaysia. As well, it can be observed also through the phenomenon of trade, migration, and exchange.

Respectably, the "wave" theory that is established by Dentan (1997) in order to reflect the complexity of interaction is the suitable way to understand the relationship between the diverse sedentary groups of indigenous people in the Peninsula Malay by comparing types of social organizations with lifestyle.

Kaiser and Voytek (1983) in their study have debated the role of horticulture in the sedentary groups that affect the rate of raising indigenous population.

Butzer (1973), classifies the activities that carried out by several types of producers. He adds that productive source, which is motivated by productive activities, is a household that is distinguished among sedentary groups as a primary unit of production and composition. Hence, household is mostly formed by either several extended families or several workers executed together in order to schedule productive activities. Furthermore, arrangement for a large group of kingship in high level is felled under producers. These lineages are that eventually coordinate the number of households. Yet, in peninsula Malaysia, the foundation of Perak that is recognised as a social organization assists to shape clans and lineage as large organizational units.

2.4 Ethnic Review of Genuine Pottersin Peninsula Malaysia

Constructing the creative vision from the historical dimension reinforces the significance of 'indigenous' identity of potters in one hand, and expresses the characteristics of 'natives' from other hand. Yet, Sackett (1985), and a set of anthropologists such as Fanon (1963), and Foucault (1982) could present a broad sense of Orang Asli conception as more beyond to be mere intellectual exercise. They have considered the indigenous people as a pivoted subject for the humanity.

According to the origins' theories, the theory presented by Oxenham (2006) signifies that the development of Malaysia's originality has manifested particularly in the period of colony, when the colonization events coincide with establishment the mainstream of dominant ethnic group such as "Melayu". Orang Asli, with respect to Malays originality issues has been illustrated by Hood (2006), who recognizes that, indigenous inhabitants (aborigines) in the Malay Peninsula are those who rooted back to the Hobinhians in the middle Stone Age. Additionally, he stresses that their root is

extended to contain all indigenous groups occupied in Sabah and Sarawak on Borneo Island and related to some Southeast Asian countries (See Figure 2.7).

Figure 2.7: A Photo of Apsarakhmer Traditional Dancer. Embodiment of Cambodian and Malaysian Culture.
http://www.ratravel.ro/oferte.php?id=549

Hutterer *et al.* (1985) and Karim (2001) has defined three sorts of traditions of Malaysian Orang Asli groups. Thus, Malay Peninsula has been identified historically as a complex of diversity population perhaps due to their geographical location and position that allows people and culture to converge from different direction-Thailand in the North, Sumatra and Borneo in the West and South, and Cambodia, Vietnam and

South China in the East. Consequently, in terms of population history, there are plenty of hypotheses have been proposed by set of authors, for example, Carey (1976) who proposed successive migrations by the people of Negritos[2], Veddoids[3], "Proto-Malays" and Deutro-Malays; while, Solheim (1980) favored a local origin for Negritos (Semang) and Senoi. Thus, Semang in his opinion was believed to be the original coastal inhabitants and the descendants of the foragers of lowland rainforests. However, Heinimann (2006, 2007) mentioned that Swiddenas' farmers are occupied in the interior highland, while proto-Malays (Austronesian Speakers) are viewed as coastal traders who came to Malay Peninsula at about 4,000 BP. Bellwood (1993, 2007) suggested three major movements of people into Malay Peninsula. (1) Negritos (Semang) who are believed to be direct descendants of the so-called Hoabinhians generation were widespread during the early Holocene and Pleistocene. (2) Negritos were joined by the Senoi who came through Southern Thailand about 4,000 years ago and brought with them Neolithic artifacts and the Austroasiatic language. The third group is believed to be (3) the Austronesian speaking Malays, who arrived during the late Iron Age, about 500 BC or late from Western Borneo and/or Sumatra.

In a part of Bellwood study (1993, 2007), he has predicated in his summary of migration issue on the way they have migrated and distributed over and their relation to language. He also stressed in his study the advantages of agricultural economy to link it to a large scale of producers and their handicraft wares that might involve with the economic status of forager groups as well. In the framework of multiple linkages, the Southeast Asia Negrito that comprised Semang is indeed typified the descendant of Southeast Asia-original foragers who also worked in the field of handicrafts-defined as "Australo-Melanesian pottery".

[2]The indigenous people from Thailand were Negroes in antiquity.
[3]Veddoids is the aboriginal people are scattered in several countries.

Accordingly, some of research projects particularly those whose investigation conducted for ancient period, (Anderson, 1987; Bayard *et al.*, 1986; Bhumadhon, 1999; Bronson & Dales, 1973), were often oriented to assimilate the issues such as ethnic differentiations, changes or transformation occurred, settlement pattern, technology, socio-political organization, trade, and foreign influence. Hence, the traditional theory called "Layer-Cake" assumed to be successive migration waves worked out for a long time by researchers such as Cole (1945); Carey (1976); see also Birdsell (1993) to be eventually applied for Semang, Senoi, and aboriginal Malays.

In the process of the link between social change and ethnic intermingling and their impact on pottery production conducted in peninsula Malaysia, recent studies have accomplished influences of change on culture, society, and settlement patterns. Yet, the ethnographic aspect in the archaeological researches (Higham, 1975; Mudar, 1993) employs precise information related closely to social influences. This range of information is used intentionally to evaluate the social changes, (Higham, 1975; Mudar, 1993), cultural interaction (Lertrit, 2000), trade/exchange patterns (Welch, 1989; White, 1996), and the degree of all these affects on pottery products. However, results that are more accurate have been acquired from the correlating historical chronology with ethnographic studies (Voget, 2009).

2.5 A View of Multi-Disciblinary Approaches Used in Several Studies of Pottery Production

In the ethnic context, many of studies presented in the scope of ethnical relations endeavour to deconstruct the Orang Asli identity; and highlight the salient characteristics that are noted among their tribal gathering (bin Abdul, 1978; bin Nopiah, 1979; Scott, 1998; Howell, 1989; Karim, 1981; Nowak, 1987; Salleh, 1978; Tachimoto,

1967). These studies analyze the ethnical association in respect to peninsula Malaysia with Southeast Asia and other countries.

Other specialist's study such as (Macaulay *et al*., 2005) could distinguish the genetic compositions of aborigines' people ethnically in their discoursing of identity, conceptualizing, and trade movements over time. Additionally, it could inspire the Orang Asli's affaires from different side to distinguish analytically the origins and identity.

Additionally, some proposed studies (Henrickson, 1983; Braun *et al*., 1980; Lischka, 1976; Smith, 1981; Smith, 1980; Steponaitis, 2009), which have been investigated in the scenario of life environmental, social, religious, and economic circumstances, concentrate on the field of pottery. Interestingly, the correlation between pottery form and function was puzzled the specialists in different fields of ethnography.

The more, other studies from social background, which fundamentally concentrate on pottery production, (Grieder, 1975; MacNeish *et al*., 1970) hold in their content different issues of pottery such as shape, decoration, and techniques through extracting a set of cultural information, meanings, cultural contact, population movement, beliefs and religious. Additionally, these studies formerly, considered most significant measurements in order to identify the pottery's sorts; and to study accurately the population movement and culture contact. In spite of that, these themes appear to be useless with respect to morphological method that was assigned for traditional pottery studies of Malaysia. It is due to that, in such method the only criteria used for pottery classification are shape and decoration, which might sometimes contain some ambiguities sides when applying realistically on cultural contact and population movement.

Yet, with the cognitive gradual development occurred in a scope of pottery, there is a distinct type of approach appearing which is called compositional approach.

This often comes incorporated with archaeological studies. As exclusively, appearance these approaches start initially with the studies conducted in Europe and America by archaeologists since 1930s and 1940s. Hence, among those pioneered studies done by Shepard (1942), and Peacock (1968) some other studies convey same compositional approach such as (Vincent, 1983), McGovern *et al.*(1985), Coutts *et al.* (1985), Cooper and Raghavan (1989), and Miksic and Yap (1990a, 1990b) have arrived to Southeast Asia. In such compositional studies, a relative approach was utilized to identify the elements and minerals composition of clay, and techniques that are carried out in pottery manufacture; In addition to, distinguishing source of pottery. Compositional approach often illustrate the process of preparing raw materials and available choices for pottery composition, and assist to determine the suited temperature modified for terminal changes in certain minerals.

From other side, one of the traditional approach used in several presented studies of Malaysia's pottery, is the morphological approach that is worked out exclusively with some cases of "Black Ware of Pottery" of Bukit TengkuLembu in Perlis and BatuKurau in Perak (Evans, 1920; See Figure 2.8). On the contrary, many of disputes turned out in what respect of "black ware of pottery" originating. In such regard, Williams-Hunt (1952) could historically bring back the origin of Black Ware of pottery to Attic Greek; while, Peacock (1968) links it to Lung Shan; and Sieveking (1956) associated it with Northern India. Consequently, in the framework of cognitive direction, traditional morphological method of pottery studies recently has become disputable rigorously which led most researches to turn to involve in other reliable methods.

Figure 2.8: Black Ware of Pottery Produced in Perak State.

Moreover, in the context of ethnographic discipline, there were some little attempts trended to focus on pottery formation/functional analysis (e.g., Foster, 1948; Mackay, 1930; MacLachlan, 1940; Rye, 1976; 1981). Owing to that, these studies concentrate on the issues that are debated in the pottery such as technologies and methods usingin manufacturing pottery. Likewise, other studies (Bunzel, 1929; Friedrich, 1970), which typically are assigned to investigate in aesthetical patterns of pottery through the potters' realm, are excellent source for our study; as they contain reliable data using to explore the form and usage of ceramic.

Nonetheless, in context of functional studies, Linton (1944) presented relative information to structural features of cooking pots. Additionally, Thompson (1958) has inspired the relationships of formal/functional themes in his specific study of modern Yucatecan Maya ceramics. Again, quite recent study conducted by Matson (1965) and Matson (1974) presents unclear account of pottery functionthat is investigated in the

Southeast Asian and Near East countries. Foster's research (1960) has been met with Lathrap and DeBoer (1979), and David and Hennig (1972) in one idea of that vessel's forms that is assigned for several specific uses.

Ericson *et al.* (1972) attempt to create a hypothetical design in their systematic study. Their design is applied for identifying vessel-form classifications and displaying categories of general usages. Yet, Ericson through his strong theoretical groundwork could reinforce his evidence; as well, he contributes to further studies concerning formation/functions relationships. Additionally, in his empirical part he has endeavoured to identify the terminology of "Function" from "Form". As a result, a list of general functional categories has provided by him.

Beyond of standard typological analysis of specialized studies of pottery, some other studies of archaeology, Trace-elemental, and microscopic examination of mineral constituent are motivated to investigate characterization of the ceramic raw materials. This includes Clasky's (1968) data of analytical archaeology, which handles various patterns of availability in attributes, artefacts, and assemblages to measure the systematic culture.

Based on those examples, the issues of pottery production that have been investigated in a combination of historical and archaeological studies are used to explorethe significant composition of elements and minerals. These examplesof issues enhance the techniques of informative data, which is often used to recognize the cultural heritage and cultural connections. Therefore, using these examples support our investigation in respect tothe themes of tradition and culture, for the purpose of formulating other factors affecting pottery, and relating to the inherited meanings of society. This is considered the most usable wayof identifying the technological characteristics of traditional pottery (Kempe & Harvey, 1983).

In such regard, we can infer, for example the curator of Perak Museum Mr L. Wary, who has achieved notable scientific gains during his collecting ethno-archaeological data in the region of Taiping in between 1880 and 1891. However, he has gained a more attractive data when he begins to investigate in the ceramic issues through searching the origins of Malaysian people '…except for some fragments of coarse superficial layers of some of the caves…undoubtedly of comparatively speaking recent Malayan origin' (Wray, 1897).

Furthermore, in the process of statistical study conducted by Ibrahim (1995),within his study he has tried to count the total number of Malaysian population, and pursued the reasons behind decreasing the population up to 2.6 percent; as well, the reasons of enlightening the Malaysian culture and language over the last century. On the other hand, he investigated the people's ability to encounter with the physical symptoms of environmental diseases, which such reduction in the population percentage might affect indirectly on the performance of craft industry.

However, according to Nicholas (2000), who demonstrated the economic situation of some Orang Asli's groups and its relation with the performance decline of their pottery production. In his opinion, the most cases of declination might be attributed to the demographic crisis. Several of authors (Bellwood, 1992; Higham, 1996; Higham, 1975) have argued in along with the topic of cultural openness and the role of agricultural settlements regions in spreading and blending various aspects of culture; these arguments assisted to understand the role of social factor in Malay Peninsula handicrafts. However, authors often link the agricultural settlement in Malay Peninsula, and the social correlationin the small community of potters to the settlement phenomenon in Neolithic period in Southern Thailand, which its chronological dating returns to approximately 2500BC onward.

Higham (1996), in his observation signifies that, the early agricultural expansion, which begun from a homeland region in Northern part of Mainland Southeast Asia, has an effect on the pottery production. However, the Southern part that is similar to Malaysia, could be recognised by the distinctive type of ceramic decoration, which are found in the oldest regions focusing in their production on the incised zones of ceramic and stamped impression (Dentate, Shell-edge, Punctuate) (See Figure, 2.9 2.10; 2.11 respectively). Accordingly, this kind of decoration is dated between the mid-third and mid-second millennia BC in many sites in Southern China, Vietnam, Thailand, and the Malay Peninsula. Matson (1965) has studied contemporary North African pottery manufacture and found that individual household manufactures tend to be diverse and variable, in contrast to the standardized appearance of products of specialist groups.

At the end of the last century, specifically in the three decades ago, molecular studies became widely used to investigate the human migration and population relationships (Al-Zahery *et al*., 2003; Braun, 1983; Lutz *et al*., 1998). Indeed, in these studies human migration and the origin of aboriginal people and their relation with pottery production have been debated broadly through various kind of analysis (Torroni *et al*., 1993; Corneo *et al*., 1968).

Figure 2.9: The Dentate Samples of Pottery, The Shown Samples Were Produced By A Melaka Potter.

Figure 2.10: The Shell-Edge Sample Of Pottery; This Displayed Sample Was Produced By A Melaka Potter.

Figure 2.11: The Punctuate Samples of Pottery, the Displayed Samples of Pottery Was Produced By A Perak Potter.

2.5.1 Studies of Ethno-Archaeological Approach in Pottery Production

In the early studies, there was a direct trend toward pottery "use-life"; as such Mills (1989) study, which is counted one of ethno-archaeological studies concentrating on the pottery function; specifically on "use-wear"; or by other word "use alteration". Mills' study is conducted to reveal functional traits of pots' usages through daily life of a household-(potter). Additionally, Mills investigates the indicators signifying the usages of pottery, which can be distinguished by the pottery surfaces. Hence, early studies have been conducted virtually under the slogan of "use-life" in order to identify the frequency of use; and estimating the differences of various vessels. The conclusion of these studies demonstrates the various sizes of smaller vessels that are produced for shorter use of life (Longacre, 1991).

Another paradigm of ethno-archaeological study is embedded through Skibo's study of Pottery Function (1992); same with Neff's review (1994), as their study combines two approaches of ethno-archaeological study with uses of pottery produced

in a Kalinga community in the Philippines. Their study is categorized also into experimental approaches of pottery usages, which is aimed mainly to reveal the material-behavioural correlation ruling the ceramic usages. Yet, in their findings, they clarify the races of residues and deposits, which are handled in the form of alteration processes. Skibo (1992) in his study gave more attention to turning and scarping, and illustration the ways of washing pots. The trait of scraping is associated with some certain usages of pottery. The pots are specialized generally for maintaining food such as meat/ vegetables are characterized to possess larger abrasion pores in the interior wall of pots, as it interacts habitually with metal utensils.

Concerning to variability, which has been signified in most investigations to be a directly resulted from the process of economic and sociality, is considered a significant part of archaeological and ethnographic studies that is habitually orientated to material cultural. Among the precise studies considering variability as significant theme in their archaeological data is Clarke's analytical archaeological study (1968). Clarke's study treats the details of artefacts, patterned variability, and the items of pottery as sorted information relating to cultural systems.

On other side, Mortensen (1973) in his study investigates the percentage changes among forms, style. Etc; ashis funding could present a curve of accumulative frequency during a certain time at specialized site. However, he did not mention the reasons of such changes. Lowry (1977) has postulated a model that treats the changing management, and behavioural sources through passing time that is relied directly on standardizations of the variability, which has been conducted in an archaeological data. At the same time, in his findings he has proposed a change in the variability generally that turn out to be shown by elaboration and diversity during systemic development of mass production's examples.

Addition to further studies, Matson's (1965) study, which presents a sample of contemporary pottery manufacture of Northern Africa, proved that individual manufacture leads to variability and diversity in what respect to standardization curve of specialist divisions of products. Foster (1965) endeavours to identify the social perspective of milieu creative innovation through utilizing ethnographic data of Tzintzuntzan, Mexico and such other countries.

2.5.2 Studies of Experimental Approach in Pottery Production

Formally, the massive framework of the experimental investigations are aligned into functional sorts such as cooking pot that comprise a most frequent types of utilitarian pots like storage pots. In the process of conducting experimental studies, laboratory is the main source running upon remedying way of ceramic properties (Schiffer, 1990; Schiffer *et al.*, 1994). Routinely, cooking pots in most experimental studies are the basic type, which receives a wide range of attention. Yet, most efforts have thrown the light on investigating the differentiations of thermal properties. Additionally, surface treatment has been obtained a significant importance among technical elements of pottery studies, whether manipulating interior or exterior surfaces of pots. The importance of pottery study is observed through remedying variety of textured surfaces (deep and shallow), or other sorts of texture such as slipping, polishing, smudging, finger smoothing, and resin coating. Studying pottery would contribute in measuring the affective results of temper inclusions with fabric texture versus textured surfaces that are resulted of mineral and residual additives of material elements inserting to the clay.

Most of relations, which are designed forthe research of experimental studies, are concentrated on the methods of thermal response, and exterior surface texturing. Additionally, experimental studies are directed to examinant the changes resulting of

thermal shock resistance, heating effectiveness, and cooling effectiveness. Generally, with respect to the substantive study of surface texturing of pots, it is noted that surface texturing in the exposed area to heating in the cooking pots is increasingly protruding. The heating effectiveness in the surface texturing is habitually incorporated with the accelerating rate of heating.

For emphasizing the previous example of surface texturing, an explanation presented by Young and Stone (1990), is explicit evidence, which utilize experimental paradigm of produced corrugated jars, and bowls.Young and Stone (1990) proved that, texturing in the exterior surface is affected by the rates of cooling and heating. In other side, Schiffer (1990) postulates in his experimental study that, pot's surface supposed to be focused on the interior through measurements of heating effectiveness more than exterior surfaces, due to in the interior surface the permeability is more modified (i.e., absorbing the wall surfaces of pots to the liquid). However, Schiffer *et al* (1994) educed through their experiments that exterior surface is executedby the responses expecting from the thermal shock resistance. Their experiment is called "deep texture", which is utilized to remedy the exterior surface through the rate of deepness, corrugation, and measuring the rate of heightened thermal shock resistance.

Schiffer (1990) in his study that water storage has been taken as sample, has proved that, the differences of pasted and exterior, which is emerged apparently through the treatment of water-storage jars, are observed often vary from region to other region; however, the changes may be occurred in one region from through passing time according to environmental factors. He explained, "…because the local environmental conditions affecting evaporation rate remain largely constant" (p. 122).

2.5.3 Studies of Elemental Approach in Pottery Production

The studies of provenance in pottery are typically matched with the specific sites exported through excavation to provide valued information of the sites and most significant productive products such as pottery. However, the sorts of examination conducted in the field of exploration provenance of pottery is often executed for several purposes such as revealing the chemical composition of pottery and identifying the characteristics of particular site or area of manufacture.

Peacock (1970) has reviewed this topic previously; and then de Bruin *et al*. (1976) recently discussed a number of relevant aspects. Composition measurements have been of two main types: (1) mineralogical/petro-graphic examination to identify the compounds and mineral present; and (2) elemental analysis to determine the concentrations of the constituent elements. These two mentioned approaches are regarded as complementary (Farnsworth, 1970; Peacock, 1970; Williams *et al.*, 1974).

Provenance studies or the type of studies that are worked out to identify the sources of pottery comprises typically analytical techniques that have been conducted mostly by Sayre and Dodson (1957), and Young and Whitmore (1957). However, the value of these studies was enriched with increasing the volume of results that are obtained by laboratories. In turn, it caused increasing and broadening the symbols of pottery placed under examines. According to that, most symbols of analytical provenance studies have framed under interpretive and descriptive producers/potters, and have specialized to present the conclusions of summaries of earlier studies including most valuable information and experiences obtaining by the pioneering laboratories; in addition to, reviewing critical attempts of potters.

Boardman and Schweizer (1973) proclaimed the advantage of provenance study; to hold one of essential tools of studies that are utilized to state the specific characteristics of pottery. Provenance study permits to make confident verdicts in what

regard the provenance of pottery characteristics or city traits through the famous stylistic and inscriptional aspect in use.

In such studies, it is noted that most of them are used to determine the earlier source by analyzing the source of pottery. Several authors such as (Boardman & Schweizer, 1973; Picon, 1973; Prag *et al.*, 2007) were motivated toward analytical provenance studies and analyzing the clay bed with the pottery that has been discovered in the same province. Other studies (Brand, 1935; Freeth, 2007; Millett & Catling, 1967), which have been presented in the field of provenance, are utilized to compare between pottery made and compositions of clays. Despite, most studies encounter with the problem of comparison between two materials *e.g.*, the potter's treatment of the clay and the addition of temper that might have been changed when it is mixed with the additional temper to become more difficult to determine.

It is noted that in most provenance studies, the techniques using in this type of studies are relied on three sorts of techniques, which are frequently regarded very desirable analysis using for many elements of pottery. One of them is Neutron activation, which is conducted by Gama-Ray spectrometry. On other side, Perlman and Asaro (1969) could present a detailed account of study's procedure to be shown automated (Widemann *et al*, 1975). Yet, Aspinall *et al*. (1968), Sayre *et al*. (1968), Banterla *et al*. (1973), Brand (1935), and Davidson and Mckerrell (1976) are launched as recent papers to present the experimental producers. As well, other techniques such as optical emission spectrometry is published by Prag *et al*. (1974), and Williams *et al*. (1974); in addition to, X-ray fluorescence spectrometry, Picon *et al*. (1971), and Poole and Finch (1972) are considered highly valuable in most provenance frequent study.

2.6 Outlook of Recent Trends in PotteryProduction in Malaysia

According to the recent literature of pottery, recent studies stylistically rely on Wobstian's theoretical approaches. This theory like other theories has affected on most researchers. However, noticeably there have been appeared plenty of efforts that are contrary to Wobst's theory and his concept. Intuitively, it is observed that literature orientations in the earlier time were interpreted based on the context of sociology-movement of anti-ceramic. Yet, Hegmon (1992) has concluded a summary, which explains that, there are two contrary points in the messages emanating from pottery. The first point is determined by transformation of meanings; while second point is represented in the messages types that differentiate according to the context (whether private or public concepts) and visibility. Sterner (1989), has claimed unanimously with Nicholas David during the discussion of Wobst's theory that, Wobst's theory would not be held longer as he could not launch the ideas of synthetic overview that are considered more influential.

Continuity, within a broad perspective of pottery decoration, decoration of pottery often has been recognized generally through technical behaviours (Hegmon, 1992). Longacre (1991) in his presented instance of pottery styles describes the proficiency in some styles such as tattooed skin, flattened heads, basketry, and textile. Additionally, he compared through similarities points between embellished weapons and the motifs drawn as facemasks (Conkey, 1993, 1991). All paradigms are employed to show a development descriptive depiction of artistic context (Carr & Neitzel, 1995).

From different concepts, the meaning of pottery styles is derived from the isolated expressions. Accordingly, most researchers conduct the scope of pottery from their stylistic analysis to another theory formula. For instance, ethno-archaeologists in their recent mission of pottery style could present precision meaning of style through archaeologists' treatment with elements of decoration in pottery style. They have

interpreted the social relations through function of pottery. Additionally, it is apparent that pottery style indicates directly to different analytical sides of compositional components. For instance, the descriptive studies of several sites of Peninsular Malaysia such as Hulu, Kuala Selinsing Perak conducted by Shuhaimi (1998), and Peacock (1964) who investigated about tripod vessels in Kodiang, Kedah, have typically defined serious steps of studying different receptions of different geographical distributions of pottery. This distribution has opened the door for debating specific matters such as distinctive compositions of paste, in addition, identifying pottery characteristics in terms of style and motifs. One of strengthen indicators of pottery composition that is embedded into samples of pottery collection reflects the various types of styles. In turn, this would provide development of production sections of developmental archaeological styled of pottery.

Eventually, in the context of style in the stylistic studies, a combination of questions could visualize differently the topics such as "Why the artists decorate a pot?" (Braun, 1991; Sterner, 1989). These questions typically consist different meanings "…Why is so much pottery plain and why some pottery is decorated" (Longacre, 1991: 114), additionally, the core question posed in the social and historical context is "…Why ceramic motifs would have been socio-politically meaningful to and symbolically deployed by hunter-gatherer man?" (Conkey & Hastorf, 1993, p. 111).

Therefore, most of investigations' direction restricts in the core of style and often endeavours to summarize it in the "way to doing". It gets easier to propose such question, "why, if anything, does style do?" (Hegmon, 1992). However, most of questions are not reliable to answer in satisfactory way until appearance of David *et al*, (1988) who declared the question of "why pots are decorated?" in convincible way. Despite, last question could express the concept of style in pottery precisely, but further

authors (Braun, 1995; Nelson, 1985) have utilized different theories such as (selective and evolutionary) in order to explain the context-based of such concept theories.

2.6.1 The Social Trend in the Malaysian Pottery Production

Artistic Production system comprises six interconnected components such as, artisans, means of production (raw of materials and technology) principles of special and social organization, finished goods principles and mechanisms of distribution and consumers (Fienman, 2007). Hence, it is hypothesized that, the changes occurred in the divisions of creative labour particularly the labour of potter production have long been tied to political and social complexity (Brumfiel, 1998; Brumfiel & Earle, 1987). More recently, the relationship between the division of labour and nature of social relations has come to the fore in ethnographic studies in particular (Costin, 1998). The means of production comprise raw materials and the technology (knowledge and tools) usingin order to transform raw materials into usable and culturally meaningful goods. Archaeologists regularly use analyses of the means of production-particularly raw materials and technology in order to infer the characteristics of production such as labour investment, skill, and standardization.

Continually, trends appearing in the most ethno-archaeological researches are directed to reveal the social identity of the artisans in general and craftsmen in particular. Fundamentally, archaeologists who are interested in such principle of organization seek to identify artisans by gender and class. This question relates directly to issues of social organization, social power artists of view and communication. Ethno-archaeological studies of technological choice have been instrumental in pointing out that variation in different kinds of attributes can reflect different aspects of social and economic behaviour (Costin & Hagstrum, 1995). This theme is evident in Gosselain's (2000) statement. He has tried in his statement to identify variety of pottery types by

classifying in detail the steps of manufacture into three different categories, such as (1) the perceptual salience of techniques involved determines the nature of social interactions, which are noted among potters/producers and consumers; (2) the potters' way of learning and performance that is affected by environments; and (3) the degree of technical malleability.

Interestingly, the cross-cultural trend districts the nature of correlations between technology and the social context. Thus, archaeologists endeavour to sort out the variable affiliation, which it is highlighted in their data, as one of their important aims designing for discriminating various types of technological characteristics. Yet, some of affiliations evidently associate to the principles of organization of pottery production. The observed explanation clarifies outstanding aspects of potters' identity that describe durability and stability comparing with other aspects which are to be more changeable and varying form society to society.

Archaeological record is one of important source for most ethno-archaeological studies that assists to access to indirect data such as variability in technology and materials, labour investment, and skill which is organizational principle of pottery production system. However, the analysis, which are built by such principles, prove the possibility of existence relationship between patterns of raw materials-use, and/or technology, and composition/structure of group of people engaged in pottery making. The fact in explanation how the patterns of techniques of pottery, which is linked to human organisational structure, is the main key contributing broadly in such kind studies.

Moreover, it is suggested that, there are limited utilities in modelling products of pottery due to the vast majority of contemporary artisans who are bounded in producing utilitarian products required for the status of general markets. Partially, this is a most known casein the functional types of pottery that have been chosen in most ethno-

archaeological studies. In the framework of art/craft composition there is notably a valuable insight observed by the social traditional context of society (Ben-Amos, 1971). Therefore, ethno-archaeologists are encouraged to involve in where traditional crafts are produced and used in the societies.

2.6.2 The Environmental Trend in the Malaysian' Pottery Production

Traditionally, the idea of originality is always associated with the need for pottery and the changes appeared in subsistence strategies, which continues from ancient time's transition until nowadays. However, Childe (1951) and Linton (1944) have rejected existence any mutual relations between agriculture, sedentarization, and pottery making. They have inferred their assumption from the scenario of "Neolithic revolution", which occurred traditionally to conclude that, agriculture, sedentarization, and pottery making are all recognized as independent phenomena.

From other side, Morrison's (1994) theory has worked outfor the hunter-gatherer groups that occupy resource-rich environments. His theory has been built upon observation and expectations concerning resource abundance, distribution, seasonality, and the human response towards increasing sedentarizationin order to verify the extent of association between originality in pottery producing and environment elements.

An expression of pottery originality and its reflection on sedentarization are manifested through the context of Brenton's competitive feasting model (2008) that is considered a combination of the "symbolic" explanations for the origins of pottery and wider adoption of pottery. Such model technology of pottery plays a significant role in social life that was displayed into feasting occasions. Here, vessels are utilized for holding and serving the featured consumables, whether fatty, oily, carbohydrate-rich, or alcoholic, and other stimulants.

Contrastingly, the original theory of Brenton (2008) has undergone to some reviews by a combination of several researchers such O'Brien (1994), who presented articulate depiction to illustrate his own expectation toward occurrences, originality, and function of pottery. He also added that intensification of people has affective role of adaptation to reduce seasonality of resource during the climatic changes, and in turn, that would lead to reduce mobility (longer settlement around reliable resources). From other side, it would affect on the socioeconomic intensification (including feasting and changes in the process of pottery production). In his trying to link social occurrences to pottery, he suggests, "Pottery is just a tool that is invented or adopted to cope with resource scarcity …" (O'Brien, 1994, p. 270). Other researchers such Loney (2000) fasten his argues closely to Brenton model and appends that pottery would have been particularly significant in areas where subsistence strategies focused on re-selected resources (such as fruit, seeds, and shellfish). Particularly, he believes that, pottery was singularly important in processing and serving fruits, oils, straches, and beverages from seasonally abundant tree crops, especially palms, for purposes of group feasts.

Kelly (1991), in such regard links the movement of mobility and the storage process of food with the pottery making, he stresses that when mobility declines or increase the sedentraization, storage becomes increasingly important, while at the same time significant changes take place in social relations among and between neighbouring groups. Rather with a group of high movement of mobility, a high degree of interaction would be increased among individuals (via marriage, exchange, etc). Yet, influential individuals are restricted by selected groups and would also control the social relations through marriage alliances and/or feasting using stored resources, in respects to pottery and its correlation with the mobility and storage phenomenon. He denotes in what relates to decoration of pottery, from his opinion, pottery would be increasingly significant for determining social identities and/or boundaries. From this point, vessels

that are often utilized for serving feast foods might be expected to be decorated, bearing stylistic information pertaining to the producer's family, and/or larger social group.

Interestingly, the phenomenon of decorated pottery, which is associated with the environmental circumstance, has been drawn continually from early pottery found around the world. Such phenomenon emphasizes that some pieces of pottery have distinguished embellishment on the surface. As well, the harmony of environmental condition with the pottery pieces has brought attention to possible symbolic functions of fired pottery containers in complex hunter-gatherer societies. As a result, these functions of pottery have been interpreted in two ways: (1), One is a long with the same lines of stylistic analyses of other artefacts in archaeology, *i.e*., using interaction theory, information theory, *etc*. (Wiessner, 1983; Wobst, 1977). (2), the other is in the context of social intensification and feasting.

On the other hand, the obvious evidence indicates closely that the relationship between pottery and environment in terms of technology is based on geographical nature of environment affecting directly on ceramic components. This phenomenon is observed in some regions of high humidity and rainfall in Peninsula Malaysia, however, this geographical advantage characteristic is generalized holistically on whole Malaysia. Yet, the aspect of wet clay may be the only available and certainly the most apparent supply. Thus, in such circumstance the problem existing due to environmental impact on pottery components is that the wet clay remains its aspect of moisture and is characteristic of too plastic clay. Again, such problem can be inferred by Gertjejansen's *et al*. (1983) statement, which proposes a solution for manipulating the wet characteristic in clay, and the mined wet clays that require a pre-manufacture drying period in order to reduce plasticity. On other hand, Shepard (1942) suggests that, inserting high addition to the clay dump may assist to reduce excess water and decreases the percentage of plasticity for leading the clay to be ready and more workable. All of

those are benchmarksof clear evidence that is linking ceramic material compositionto the nature of surrounding environment.

2.6.3 The Social and Ethnographical Trends in Investigation of Local Pottery

The phenomenon of cultural change in Malaysia contributed explicitly in the concept of cultural associations and led as well to the cultural influences. This has begun initially with emergence of ancient kingdoms such as Langkasuka[4], Kataha[5], and much later Malacca flourished, as the later has played a role in diversifying the local culture. Thus, it could be reflected artistically on the artistic skills of potters when we observe the blending of artistic skills among India, China, Indonesia, Persia, Arabia, and Europe that is incorporated with traditional Malay motifs. Here, Merriam (Dietler, 1989) borne out the importance of affecting cross-cultural integration on the pottery production and local tradition of craft making. It would contribute in pottery by bringing out new birth of craft that associate with uniquely Malaysian identity. Therefore, pottery is remarkably the most significant way that is assigned to open the door for direct contact between artisans and others; and expands human interaction with different cultures. In turn, pottery is one of the craft themes that are capable to reflect the values of traditional customs, historic experiences, and a mixture of ethnic groups. Interestingly, pottery is the way that assists others to learn more about culture.

Broadly, Gorman (1971); Higham (1975); Bellwood (1993) asserted that, the issues, which released in agricultural societies, have been contextually highlighted within the changeover that occurred in the lifestyle of hunting gathering to be converted to food production. These issues have been discussed by archaeologists as main themes relating to Malaysian society. Undoubtedly, the observation of Bellwood statement, which based on the hypothesis of existence durable correlation between handicraft and

[4]**Langkasuka** (*Langkha* Sanskrit for "resplendent land" -*Sukkha* for "bliss") was an ancient HinduMalay kingdom located in the Malay Peninsula.
[5]**Kataha or Kedah** is one of the earliest trade centers in Malay Peninsula. Initially, Kedah was famed by Tamils as Kidaram, Kedaram, , Kalagam, Kataha, andKalahaor Kalahas was called by the Persians.

agriculture development and social complexity, might be emphasized by social transitions. Thus, the following statement of Bellwood (2007) is accurate document of this deduction.

> A world-wide perspective on the record of both profession handicraft and archaeological which pertains to the origins and authenticity of handmade and agriculture indicate that pottery and agricultural crops such as cereals (rather than tubers and fruits) were the major resources behind the earliest developments of sedentary village-based lifestyles and the resulting cultural changes toward complex societies (Bellwood, 2007, p. 148).

In most studies conducted by using survey in specific regions of Malay Peninsula, Sedentary is the central issue puzzling the specialists in the scopes of biology and archaeology. Sedentary strategies are basically determined by the interactions between human and their environments. It is presumed that sedentary could clarified through the transition and changes in the strategies of lifestyle and the patterns of settlement that changed gradually in the subsistence economy from mobile to sedentary.

Here, Bellwood (2007) in his explanation demonstrates that, the main cause of socio-economic revolution, which probably affect on pottery production, turns to existence a correlation between agriculture and sedentism.

Concernedly, in the conservative society such Malaysia, most of odds indicate that, the strategies of lifestyle of Malaysian's society are associated locally with the ways of making pottery. Hence, it leads us to link between human and the resources of naturewhich the more important among them are cultivation and maritime phenomena. Thompson (1992) emphasizes that, Malay potters continuously are associated radically with land when obviously endeavour to benefit from the natural resources and employ them for serving the local lucrative industries such pottery. Moreover, Thmospon gives illustrative example that the linkage between the people of Khokphanom[6] with

[6]**KhokPhanom Di** is a community that is characterized as sedentary coastal which focally depends on gathering, fishing, hunting and rice agriculture in particularly interior regions.

cultivation can be directly observed through their interest in growing rice in large quantities and their local patterns of pottery production. He adds:

> The people of Khokphanom Di grew rice in large quantities, and again it appeared to be used in their local products as husk temper and assist to give astonishing impressions in pottery-used as this has been observed through graves' founds such as beads and bracelets, stone adzes, and well-crafted pottery; the finest vessels, which have cord-marked or burnished surfaces and horizontal zones of incised and in-filled decoration of the type (Thompson, 1992, p. 77).

Regarding to the technology of pottery, which is extracted from one of nature source such rice, husk technology using in local pottery production states illustrates the differences of affections of rice husk and the quantities of use in potting process (Dickinson, 2006; Skibo *et al*., 1989; Tite, 1999; Wood *et al*., 2005). Husk technology in the previous mentioned studies has been analyzed using the parameters of types and quantities of rice husk, which affect on the properties of the potting clay. The husk technology concentrates on the function of husk through two main principles, 1- Rice husk that is provided relatively in large amounts; in the case of what able to function as temper, 2- Rice husk, which is utilized in quite minor amounts; *i.e*., at the lowest level to be treated as temper that probably emphasizes that its inclusion was indirectly associated with cultural reasons or was assigned accidentally for culture.

Continually, in the Atkinson's (1984) observation of various samples taken, he illustrates the main reason for diversity of clay types, as it is not closely related to rice husk, rather the main aspect of pottery manufacture returns obviously to cultural aspects. Sorensen (1967) in his chronological study after conducting his excavation of Ban Kao burials has categorized pottery to two groups: first class of categories leads to various types of vessels such as tripod feet, ring feet, and high pedestals, and later class subdivides to plainer round or fat-based forms. Predictably, Bellwood (1993) stresses through the samples of cord-marked and tripod-footed vessels that, these are a good

indicator emphasizing the fact of existence a close link between southern Thailand and Malaysia's pottery products in terms of design and structure of modern design.

Yet, Leong (2003, 1991) in his studies that focuses on various samples of Jenderan Hilir pottery in Selangor declares that, these gathered samples indicate to the identical similarities of technology of Ban Kao design. Yet, these similarities, which have been found among the types of pottery of Selangor and Thailand, signify that, the cross culture might be absorbed broadly in other countries.

Technologically, by predicating on the comparison held by many researchers (Bellwood, 1978; Miksic, 2003; Leong, 1991; Peacock, 1965), all these researches meet in one point that, there are similarities among the characteristics of pottery produced in Malaysia with that made in Southern Thailand, though existing slight differences in terms of pottery and raw materials. Such similarities are measured through the form and decoration of tripods with hollow legs, carinated bowls[7] with cord-marked decoration, pedestalled bowls[8], and round-bottomed bowls with cord-marked decoration…etc. Other studies (Sorensen, 1967; Suphavan, 1978) confirm existence the similarities in some attributes shared noticeably in tripod pots with conical lags, and black burnished and brown wares in various shapes *e.g.*, pedestalled and stemmed bowls, pedestalled vessels, funnel-necked jars, carinated bowls, cups, round-bottomed bowl sand beakers.

2.7 Factors Affecting Pottery Production Trends in Malay Peninsula

Initially, from the technological perspective, many authors have touched the subject of selecting clay such as Arnold, and Stark *et al.* (2000) who demonstrated that, a combination of cultural and environmental factors influence on the variability of the composition of selected raw materials and unique constituent of paste. Moreover, various composition of clay is comprised chemical and mineralogical proportions of

[7]**Carinate**is a special shape applied on pottery, glassware, or even artificial design made in a shape of orvases. Carinate shape is recognized by joining the rounded bases of the inward sloping side of vessels. (Cooper, 2000).
[8]**Pedestal** is the basis that supports the structure of bowl.

clay and temper sources, which habitually resulted from topography and domestic geology of pottery. Yet, various factors of selecting process of clay that are determined by potters themselves (e.g., performance characteristics during manufacture, and the use of finished vessels) play role of controlling over resources. However, the mentioned factors are often restricted on trying to (1) access clay resources, (2) the technology and organization of selection; and (3) organizing the correlation between those who control the resources and those who transform raw materials into complete vessels.

Arnold (2000) implies two fundamental components are mostly employed for exploring characteristics of raw materials; additionally, these components address certain kind of questions drawn for social and spatial organization of production, and selecting the ways of pottery distribution. However, other factors concentrate on the choices that are assigned for resource of raw materials using in the process of pottery making. Thesefactors are mostly considered in ethno-archaeological scope. Again, it is noted that, Arnold (2000) in his study that often conducts paste composition and characterisation of pottery production usually avoids investigating the technologies of pottery. Thus, his study contributes in reconstructing organizational unit of pottery production and human behaviour. Arnold believes that, various aspects of paste clays are typically associated with technological and environmental factors more than organizing production. Stark and her colleagues (2000) utilize a kind of data similar to Arnold. However, her group launch the statement of that, spatial influences in characterization studies might be able to access to high degree of affection on pottery.

In recent trends of ethnography, the economic factors play salient role particularly in selecting technological choices that are governed by principles of efficiency and composition. Recent studies, as for example, Arnold's (Arnold, 1999) investigation in available choices of firing facilities demonstrates the complexity in explaining technological choice. In his explanation, he has taken in account the material

fuel availability, time, space, and micro-environmental condition that are all governed by environmental factors. Increasingly, anthropologists and archaeologists stressed the role of pottery in their investigations through the social dimensions of technology (Dobres & Hoffman, 1999). Therefore, an indicative paradigm of environmental influence is evidently observed in pots that are investigated more carefully by experimental studies.

Additionally, existence similar characteristics in making pottery are observed mostly through the labour and materials that are intensively restricted in the kind of vessels designing either smudged or slipped; as these techniquesare more affective during the step of heating in pottery production (See Figures 2.12; 2.13).

Figure 2.12: Pieces of Pottery That Were Produced By Using Smudged Technique Picture Was Taken in Perak.

Figure 2.13: Pieces of Pottery That Were Decorated By Using Slipped Technique, Which This Picture Was Taken in Negeri Sembilan.

Interestingly, most investigations conducted by recent technological trends of ethno-archaeology and ethnography often combine social, political, and economic contexts within one technology. However, Arnold (2000) in his study asserts that the correlation between pottery production with economic and environmental factors are imperfect. There is a suggestion of that, if ethno-archaeology is directed to demonstrate the correlation between ceramic compositional groups and human production units. Archaeologists would provide a key of analytical tools and amount of presumptions that built upon the theories of pottery production.

Furthermore, the report of ethno-archaeological studies conducted by most ethnographers such as Stark *et al*. (1998); Neupert (2000); and Arnold (2000) has proved that, compositional groups of studies are frequently correspond to the issue of human groups which is noted obviously by the interaction among social, political, and economic aspects. However, Neupert (2000), through his case study of paradijon, states that, the selected resources by potters are attributed to political and social factors, more

than economic considerations. Thus, these factors, which are often foremost, affect the distinctive resource of materials selection. Other instance of production studies is Longacre (1991) that has confirmed that factors such as clay quality and distance of access to clay points often do account and/or suggest for a big account of large proportion. Van der Leeuw (1991) has postulated that, there is no superiority among models such as (technological, economic, and functional or social) on each other. Neupert (2000) stresses the context of influence of the materials patterns on pottery. However, there is a strong and distinctive appearance of social matters affecting pottery. Further, Stark and her colleagues (2000), Gosselain (2000) demonstrate that, different stages of production lead to different processes of social interaction.

2.7.1 Economic Status and Pottery Production

Malaysia is known entirely with the aspiration to become agricultural country. Malaysia commonly in the context of economic has emerged as an industrialized manufacturing, which start from a period of 1990s (Massey, 2002).

Lynch *et al*., (1992) in his study that is a character of the socio-economic system, denotes that Malaysia has been controlled by chief races, which in turn have been divided and occupied as assigned to them. Consequently, each division was felled under certain rulers; for instance, Malaysia was monopolized to occupy the rural areas. However, China was specialized for a comprehensive economic. Lastly, Indian race typically associated with the rubber estates. From another view, Malaysia (1992) in his study of environmental displacement in Malaysia has proved that social life style and the handicraft industry possesses a huge role for determining the economic situation of natives or indigenous tribal people who are habited in the rural regions of peninsula Malaysia and rely on the nutritional resources of forests. He explained that, this kind of people depends in their economic on hunting, and exploiting the collection of rattan,

bamboo, and swapping palms. Therefore, the base of their economic is based on trade of jungle products and the fruits that are gathered from the forests.

Moreover, Pye (1988) stresses that pottery implicitly has played salient role for reviving Malaysia's economic sectors. He has continued to demonstrate that between 1980 and 1983 Malaysia's economy witnessed a remarkable development that is coupled with the evolution of handicraft industry in Malaysia. Particularly it could be observed through increasing the demand of batik textiles and potteries sales. It can justify increasing the rate of revenues that are resulted mainly from craft export.

Predictably, Moore (1998) illustrates the economic situation that is correlated with the changes observed in peninsula Malaysia's agriculture such as (corps products of rice and millet). Agricultural change has been emphasized notably through emigration movement from Southward Thailand to Malay Peninsula. He states that, a number of sedentary villages tend economically to make burnished and cord-marked pottery. It was similar to that was found in sites which are far north such as Kunchanaburi in central Thailand. At the same time, he linked the archaeological discovers of cord-marked pottery to its role in enriching economic situation in west Peninsula Malaysia. This reinforces the belief that there is a strong link with respects to affecting economic status on the local industries such as pottery.

2.7.2 Social Factorand Pottery Production

Ceramic is a bulk basis in ethno-archaeology scope, which has puzzled ethno-archaeologists since a long time. Yet, it was and is always viewed from comprehensive social perspective. Kramer (1985) is one of pioneers who have involved constantly in such disciplinary, has noted that ceramic ethno-archaeology in the field of archaeology focuses on a considerable range of behavioural diversity in pottery making societies

(Kramer, 1985). He pointed out that, since 1985 ethno-archaeologists have continued to document the variability aspect among pottery-making communities.

Among the apparent complex works in such context is Gosselain (2000) whose data has been indicating some understandings of potteries' characteristics that seem tobe observed by diffusion phenomenon, rather those are correlatedto the social group boundaries. Archaeologists gain a better understanding of social theories and thus of the dynamic nature of social processes. Silverman's (2010) broad definition of social theory, which is "bodies of general knowledge about socio-cultural phenomena, specifically, social theory" (p. 5), makes it clear that, social groups are not mutable entities, but it is somehow a reflectionof the material culture in their products. A number of ethno-archaeological studies illuminate the complex process of establishing and maintaining social and ethnic identities. Different paradigms presented by Bowser (2000), who shows how potters in the Ecuadorian Amazon use pottery decoration to signify their current political alliances. As well, how that decoration is less strongly associated with the women's inherited ethnic identity. In this case, the potters actively incorporate decoration into their political strategies and social interaction at the level of what Giddens (1984) calls "practical consciousness".

Consideration of different kinds and levels of variability in pottery has led to more nuanced understandings of the ways of social identity and political alliances. Such insights have developed by archaeological and ethno-archaeological researches that considered different kinds of style (Hegmon, 1992), for example, some kinds of style may be emblems of potters' social groups, and others assert aspects of individual identity of potters (Wiessner, 1983). In such regard, archaeologists have also cognitively recognized the bulk importance of exchanging systems in pottery production, which can bring critical understanding for social, political, and economic relationships among

potters, based on one a group of potters or the group's relationships with other groups (Hodder & Orton, 1976).

Gosselain (2000), whose investigation is about pottery style and technology across much of sub-Saharan Africa, finds that though easily copied of roulette decoration; it is seemed to have spread through diffusion. However, these techniques are associated noticeably to cultural boundaries. Gosselain (2000) and Stark *et al*. (2000) obtained similar conclusion that, there are some correlations between group/political boundaries and technological tradition of pottery products; although it is not clear if the differences in technology of pottery are perceived as aspects of group identity.

The exquisite handicraft engraving and decoration of pottery products that are made through the nationality folk both constitute a kind of practical products for living and also elegant handicraft products; and can both satisfy the requirements of material living and also satisfy the needs of spiritual living, as they possess the dual importance properties of material and spiritual (Jeffcutt *et al*., 2002).

Xu *et al*. (2009), in his investigation about Nixi black pottery[9] illuminates the mutual correlations between pottery and hierarchal lifestyle through their pottery products, which are made for livelihood needs. The value of their pottery productsis wealthy within the nationalities' cultural heritage created by the minority nationalities' peoples. More explanations have stated by them to denote the social status of handicraft products and the purposes of their made, whether are considered as enjoyment, and one's own usage, or sometimes are considered under the social conditions of the daily development of commercial product economy. They have gradually stepped towards the market and participated in the exchanges, to serve society (Schiffer & Skibo, 1987).

[9]**Nixi black** pottery is made by small community of Tibetan village occupying along the popular route of adventure from Deqing to Zhongdian in approximately Ynnan Province.

Xu *et al.* (2009) asserts that traditional pottery crafts are the essence of Yunnan's indigenous culture, and are the quintessence of Yunnan's minority nationality culture, which embodies the primeval flavour of Yunnan's native birth. Wobst (1977) was concerned with style as a form of communication of social roles and group membership, the concept of style in pottery has led archaeologists to develop it to very important notions. Subsequently, Sackett (1985) challenged the concept of style as symbolic communication of social identity.

All presented studies denoted that archaeology is interested in recognizing the social relations of pottery production, which consist the relations existing among production units and the relations between producers and consumers.

2.7.3 Ritual Performance Factor and Pottery Production

Pottery production plays vital role in different sides of life cycle, specifically in ritual evens.It has been embedded through Mudar's (1993) investigation of tauva religious of Ausrini people in Brazil and its role in developing the pottery. He has demonstrated their ritual belief that is related to tauvyma-a mythic character of Asurini who has been identified as the first potter, within their belief legendary. He states Ausrini people have been affected by their religious way of making pottery. In another fieldwork investigation carried out by Silva (2008) whose interpretation was clarifying closely the relations between Asurini people and pottery production as specimen has been taken here to signify to holy stature of pottery particularly among conventional community. He confirms that the most important activity-taking place during the religious rituals is the production of the great ceramic vessel called tauvarukaia, which is seen as the house of the supernatural tauva. These kinds of pots are used ritually during one stage of ritual cycle to evaluate whether the young menafter they jump over

the pottery are capable to pass the social status of young warriors or still need to undergo more practices and preparations.

Xu *et al.* (2009) in his statement of Tibetan nationality's Nixi -Yunnan nationality- stresses that the role of spiritual need is intensively observed by the religious artwork and implication meanings. By other meaning, pottery contains deep spiritual contents and enormously high culture value, and economic value (See Figure 2.14). It is the valuable heritage of the conventional peoples, which makes it a gigantic wealth that has not yet been developed and utilized (Xiaoyuan Yang, 2007).

Figure 2.14: A Number of Incense Burners That Are Influenced By Ritual Style of Life.

Pottery plays a central role in materializing ideology and social meaning through the creation and transformation of material objects. To the extent that craft objects are the focal point to investigate in the social and political relations. Thus, it is important to understand the social identities (class, gender, ethnicity, legal status, and the like) of those who made them. As Gosselain (2000) points out that, social distinctions and social

relationships are discerned through making and using of material culture (Hodder, 1982).

2.7.4 Ecological Factorand Pottery Production

Arnold (2000), Neupert (2000), and Stark *et al*. (2000) present a set of investigations, which assimilate the issues of pottery and its influences. These studies address enumerate series of natural and cultural factors that affect the selection of raw material and paste composition variability. As well, include the natural, chemical, and mineralogical variation in clay and temper sources that are resulting from local geology and topography. In archaeological studies of ceramic production, there is a need for a reasonable assessment of geologic variability among other things. As Arnold (2000) implies, raw material characterization is used to address the issues of spatial and social organization of production and distribution.

Moreover, Stark and the team of her colleagues (2000) have proved that potters are socially influenced by their environment. Stark evidently demonstrated the social relations (i.e., Kingship), and ecological involvement between Kalinga potters and the owners of fields where clay quality is important resource for pottery production. Making a decision on which kind of clay potters use is determined by workability and performance characteristics in manufacturing.

Similarly, Neupert (2000) stresses the important of ecological factor through Paradijon potters who are qualitatively rank their clay by concerning socio-ecological factors in order to determine which kind of clay they might use. Accordingly, ethno-archaeological studies have a unique importance for archaeologists to demonstrate the relationship between spatial context of production and the social relations among producers. Wobst (1977) assumes that the relations between potters and their environment would be well known and that the use of style to communicate such relationships would be reinforced with existing few messages come from artefacts

themselves. In such context, he states "there are few messages that would not be known already…in the context of the household" (1977, p. 317), he believes that, the messages coming from artefacts are able to reveal a big part of potter personality and convey significant part of social group affiliation.

Recent studies Moore (1995); Ortner (1984) indicate that pottery style mainly has been approached as symbolic ecological communication of women's social identity through the active political alliance and the cues of political affiliation that are reflected by women' attention. Yet, these considerable attentions have been attributed to the need of understanding the intentions, strategies, and meanings of social factors that are translated to symbolic forms in archaeology (Clark, 1996; Hodder, 1982) and manipulated by the general social theory (Bourdieu, 1977; Giddens, 1979).

In the context of ecological inferences, Underhill (2003) in his fieldwork of Yazhou pottery[10] describes that "…at the time of my fieldwork about 30 families lived next to good-quality clay. Some of these families used to be involved in pottery production and later decided to sell the clay to others or the one who has right to dig it". He discoursed that, there is evident indication of preferring potter the appropriate environmental condition, which can assist him to produce a good quality of products. In other meaning, he has presented other specimen during his fieldwork, which proves that potters are influenced by ecological circumstance. Influential circumstance of potter's style is evidently embedded through LYX potter's life, which is living in SgangPinglang. Underhill (2003) again stated in such case, "…he works for 7 months a year in his workshop that made of durable materials in order to protect his vessels from bad weather". Underline in his description has presented a conclusive evidence to confirm that ecological and climatic factors can affect on the scale of pottery

[10]**Yazhou** is a type of pottery produced in the Pingtang country particularly in the Yazhou town that is afar approximately 26 kilometers from the country.

production. Moreover, he continues: "…this potter also relies on empty spaces in his home to store fired pots, especially the large size of pottery. There is even more variation in the use of space for household potters at Yazhou". (Underhill, 2003: 203-275). He emphasized that, there is a noticeable relationship between intensity and the scale of pottery production in some, but not all, cases.

2.7.5 Government's Initiativeand Pottery Production

Craft development in a country as Malaysia, which has visible concern in terms of adequate work force and infrastructure, has lucked by Malaysian government, since craftsmenship has been witnessed an increase in the revenues from craft exports. However, the main growth period of government's initiative was between 1980 and 1983, which was when an enormous increase appeared in batik textiles and other craft products (Pye, 1988). Nonetheless, as has been indicated earlier, we should bear in mind that the handicraft industry owes its development to the government's efforts.

Consequently, the responsibility of the governmental agencies, which are involved in development of handicraft industry, summarize in such following points:

- Encourage the participation of villagers in handicraft industry;
- Provide intensive programs for training the craftsmen wishing;
- Supply raw materials to be available for all producers of handicrafts;
- Dissemination knowledge, experiences, new ideas, and innovation .etc among craftsmen to create a strong scientific basis;
- Provide other needed stuffs for craftsmen such as Machinery, and equipment;
- Promoting and displaying produced products in among the handicraft market;
- Presenting the advices and the advisors who consult craftsmen to make the better products fits with current market status and assist to achieve their credit to their products, environment, and market.

In the respect of considerable role of the governmental agencies toward development ceramic production, it has been observed that the function of some government institutions such Ministry of National and Rural Development is representative in the basic construction that is employed to achieve the development of industry. Under this construction there are some agencies, programs, and organizations were established. The combination of governmental agencies, which are employed for a purpose of promoting the development of handicraft industry, is categorized as following: the community development department, the Council of Trust for indigenous people, the village industries Division, and the Malaysian Handicraft development corporation. All of those organizations are designed to improve ceramic production status and intensify it, as well; these organisations assist to increase traditional industries of production to lead such industries extend broadly.

Additionally, summary intergovernmental effort boils down as the following:

- Reinforcing the producers, potters, ceramic artists' skills through share the knowledge between them in order to disseminating the academic idea, and new design among potters and artists.
- Revelation of basic constrains surrounding craftsmen and can hinder creative work from through observing their reality of living and factors affecting them.
- The analytical insight given to reflect the economic, social, and hierarchal influential factors affected on the trajectory of pottery evolution.
- Throwing the light on the small details of people's life particularly those who are involved closely in pottery production and the innovative process of creative pottery in order to observe the potters personality and their reaction toward pottery interaction.
- Presenting a combination of advices, feedback, and suggestions for enriching the further pottery studies.

Finally, the observed results from the government's efforts infer that the role of government in developing pottery constitutes one of significant factors affecting pottery even in the form of relations between pottery artists with user/consumers. Thus, this information would not only enable potters to meet the current demands of pottery products in market, but also is considered to be used as valuable information for further research, education and practice in the field of pottery, art, and design.

2.7.6 Market Statusand Pottery Production

Marketing can be defined as the performance of business activities, which directs the flow of goods and services from producers to consumers. In broader terms, marketing is defined as a system of business activities that are assigned to plan, price, distribution, and promotionthat is directed from satisfaction of products (goods and services) to potential customers (Evans & Berman, 1988). Production and marketing are the two facets of a coin. Rural marketing constitutes the nerve centre of rural development activities. Rural marketing is based on two ways of marketing process that encompasses: (1) marketing of pottery products, which flow to rural areas; and (2) pottery products, which flow to urban areas from rural areas.

Abebe *et al.* in his status (2010) has categorized the main members involve in the rural marketing system which composes typically from buyer, seller and the third part is mechanism that his role is to transfer the artefact goods from producers to consumers with follow all sale and purchase' conditions. Potters in the rural marketing system particularly in the process of pottery production, are proficient for more than one profession, as sometimes they can be manufacture, farmer, and/or assembly industries. From other side relating to buyers, they are categorized as consumers, wholesalers, retailers, the farming community and cooperatives. Operators in between are retailers, wholesalers, and cooperatives (Ejigu *et al*., 2011).

A few amounts of pottery manufacture studies whether those are presented theoretically or empirically have been conducted the marketing strategy and its effect on pottery. Hutt and Speh (1984) observe the relation between marketing strategy and pottery. Wind and Robertson (1983) stated that, "the marketing literature has given a little attention to the web of interrelationships that exist between marketing and the other business functions along with the clay manufacturing business" (p. 12-25). They noted that, "the interdependency between marketing and other business function such as pottery that has received a little attention in the literature" (Wind & Robertson, 1983: 12-25). Yet, with the respect to patterns of identification pottery, as well, pursuing the factors affecting such production, all factors together can be derived from improvement of industrial pottery production. Such factors are noticed when the attention towards the programmes is designed to recognize all constrains that handier pottery production in less developmental areas. Among the functional framework, it is evident through the economic studies conducted in the field of pottery production that, however economic studies have contributed well for enriching such pottery production; but from otherside, many studies have endeavoured to throw the light on the regional variation of pottery production and clarify the factors affecting such variations (Dias, 1991). In this context, the Ninth Malaysian's Plan 2009/2010emphasizes the efforts that are planned to move the homegrown manufacture up in a manner that appropriate with the local economy. Malaysian plan 2009-2010 is illustrated here as following: "application of high technology and production of higher value added products will be given emphasis.

The development of higher value added manufacturing subsector such home-grown village industries (handicraft), batik and songket[11], will continue to be modernized and brought up to international standard". In other meaning, the vital role of promotion in Malaysian marketing has been stated into the Malaysian Ninth scheme:

[11]**Songket** is a fabric that is famed by brocade group of family who are producing textile in Brnuei, Malaysia and Indonesia.

“extensive efforts to promote Malaysian crafts in traditional and new markets will also be undertaken in collaboration with the private sector. Innovative and creative ways to market and brand Malaysian crafts will be explored.” By concerning to the promotional movement that support local market, the promotion and marketing of Malaysian arts, culture, and heritage products will be intensified at both domestic and international levels through various marketing campaigns, and the organisation of prestigious international events. Thus, marketing products are relied fundamentally on domestic events such as National Craft Day and KL Festival.

The mission of marketing and promotion that reflect the marketing potentiality in the same scheme of Ninth Malaysian’s Plan has explained that: “marketing and promotion efforts will be intensified to sustain the competitiveness and attractiveness of home-grown products and services”. Among Malaysian plans, marketing and promotional activities will be incorporated proportionally with the key market segments as well with the goal of increasing greater domestic homegrown products.

Regarding to the necessity to incentives, which is used to strengthen the productivity movement and reviving the market strategy, there is governmental encouragement. The importance of incentive expressed here as following: “the private sector will be encouraged to develop innovative handicraft products and services in order to meet the demand of different market segments as well as develop potential niche markets”. In the same context, the need to provision of incentives has been emerged for development of special handicraft products (Malaysia, 2006).

Considerably, producers are a par with all the different regional groups in one aspect, which is the desire to figure out the basic motivational factors from consumers’ viewpoint. Thus, a group of American potters from 1970s to 1880s have realized the significance of embellishment to encourage and satisfying most of consumers’ groups, as well increase the chances for selling more goods, and improving profits. Increasingly,

they relied on skilful or professional decorators for adding value to factory banks in order to make their products more attractive marketable and suited for consumers' interests.

Potters in constantly seek about the nation consumer's desires which is the main matter puzzled them. For more emphases, American pottery is apparent instance, as American specialists allocate a few persons who are professional for the tasks of deciphering their consumers' eclectic tastes, visualizing the consumers' material desires, and responding to their demand. Therefore, in track conducting pottery they rely on their knowledge of fashion and embellishing technologies to satisfy the consumers and meet their physical and psychological need.

Moreover, external trade has taken influential place with regard to export of manufactured goods to become the largest contributor among Malaysia's total exports, which such process mostly has been reinforced through pottery product enhancement, competitive pricing, and improved marketing strategies. Therefore, such situation may enable Malaysia traditional manufactured goods to compete the market of non-traditional products (Asid, 2010).

Habitually Malaysia market is built upon a set of strategies as has been mentioned previously, thus, continue to traditional craft and family wage are one of principles ruled the market strategy. However, abundance such strategy easies diversifying production as what was dictated in the market and assists potters to handle their living wages. Potters families' members who involve with production teams have benefited from cooperating with governmental schemes and pursuing market's strategy, as well responding consumers' desires that were the driving force in the marketplace. Thus, Dean's Staffordshire as an illustrative example emphasizes the consumer's demand as a driving force in marketing craftsmenship. He paid attention to monitor the

market status and create a type of goods that respond consumer's demand for stylish and beautiful household decoration (Blaszczyk, 1994).

In some cases, domestic potters may use wholesaling as an alteration of selling process, which changes the usual and traditional relationship between producer and consumer (Myers, 1984). Increasing or broaden the market as well merchandising the goods are driven in most cases by the economic conditions of the country (Miller, 1984). The promotion of goods are associated with the ethics of dealing with purchasers and the strategy links whether potters with their direct costumers or with the merchants or might be in some cases special costumers that potter used to deal with. As given instance, one potter has asserted that, "I used to offer all the better pieces of pottery to the patron, who was another potter, and kept back the other products that had a defect for sale at a lower price to buyers from Simbilai who came to my house" (Bankes, 1985: 269-277).

2.8 Summary of Chapter

In view of historical literature in the originality and authentic of Orang Asli people, it can be asserted that the antique industries, particularly, pottery production is reflective of social and ritual life-style that is practiced by handicraftsmen such as potters.

This study literally in the section of literature review has attempted to describe and explain the socioeconomic and artistic issues that are related to the ethnic communities of Malay Peninsula. Yet, these communitiesare characterised by socioeconomic and cultural differences and similarities among the ethnic groups of potters. It is necessary to mention that, all the Malaysian people, regardless their ethnic identity, are tied to their traditional products socially, ritually, and economically that are reflected through their nature of life. In addition to, the aspect of sharing the basic needs and desire of producing pottery.

Paying attention and throwing the light on the importance of pottery manufacture has established based on the needs to recovery the economic policy of rural regions. From other view, problems of poverty and economic hardships are overly pushed the potters to rely on their proficiency of making handicraft industry and rank it highly as main source of livelihood.

Displaying the historical review of Malay Peninsula tribes was conducted based on the hope of forming precise understanding of both differences and similarities that are observed among Orang Asli people. We might achieve astonishing results for identifying the salient characteristics of pottery production made by conventional small rural communities of Malay Peninsula. As a result, the sections of methodology, findings, and analysis are thought to assist achieving such mentioned goals.

CHAPTER 3

Research Design and Methodology

3.1 Introduction

This chapter presents a brief introduction of research approaches that has been selected as much relevant key point of research. Current chapter presents the accurate methods of ethno-archaeology using frequently in the field of pottery by previous studies. It follows with an overview of various research methods, which have been studied in same scope, to provide a precision depiction of methods led to achieve the expected results. According to the diversity of the features detected in the literature-review section, current section presents some of main features of this methodology based on some theories selected for our study. By other hand, the importance of methods and research questions are demonstrated in such chapter. Research methods here are strongly associated with a data that highlights the reliability of ethnographical factors containing socio-economic and socio-culture affairs (i.e., human social interaction, regional differentiation, identical discrimination, governmental supportive activities, social correlations' patterns, site structure and activities, craft production specialist, trade and exchange, and so on).

In this chapter, a constructive theoretical framework design is illustrated with giving a depiction about the type of methodology used for gathering data; additionally, survey construction as instrument for gathering data and the questionnaire translation are being provided in such research. The reliability of data collection and pilot study as a part of data are illustrated. Furthermore, the methodological strategy of such study provides an appraisal of validity and reliability of the pottery production process.

Finally, the techniques, which are considered for analysing statistic data, are taken in account.

3.2 Research Approach

The methods of Research approach in its nature are fitted to treat and analyze the selected data. The two methods of research approaches are almost equal in terms of appearance of strengths and weakness points. However, the current study approach has been carried out quantitatively according to the purpose of the study and the main research question (Yin, 2014), as the most questions in this research are mostly applicable for statistical method.

This study is based on quantitative research due to the hypotheses in such research take the form of expectations as shown in the research cycle (See Figure 3.1), which are likely casual links between the constituent concepts identified in the hypotheses. Eldabi *et al.* (2002) Stresses the way of quantitative research approach by "logical and linear structure". By other meaning, hypotheses are assumed to specify the casual link in the result that might be acceptance or rejection of the theoretical propositions.

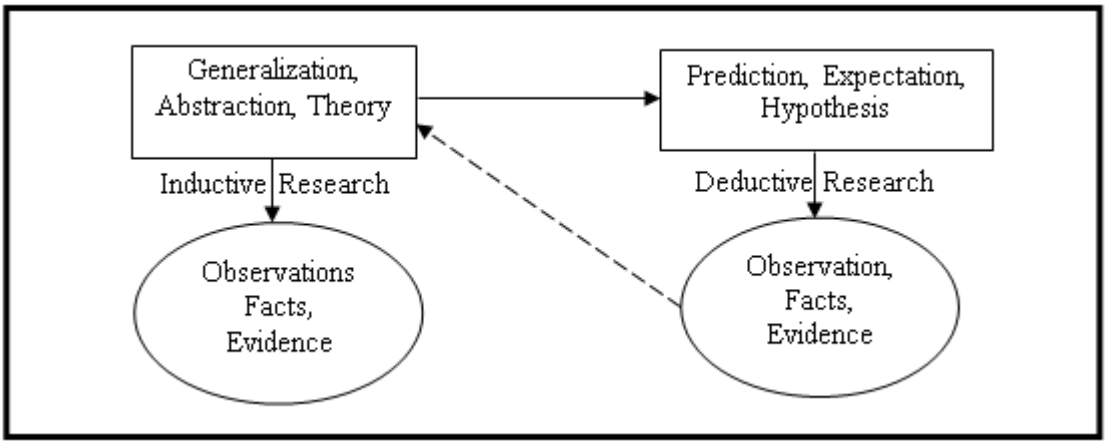

Figure 3.1: The Research Cycle (Designing Methodology) (Tashakkori & Teddie, 1998).

Quantitative research places emphasis on methodology, procedures, and statistical measurement of validity. Basically, the quantitative method of current study

relies on analytical measurement tools and the data manipulated statistically to reveal the relationships between each set of data on another. These measurements are designed to obtain quantifiable conclusion (Newman & Ridenour, 1998). The criterion of eligibility of current research approach is mainly attributable to the large volume of respondents have been selected (Yin, 2014).

In qualitative approach, a fewer number of objects are studied. The purpose is to gain a deeper knowledge of the studied objects. The qualitative approach is used when the researcher wants to obtain more data that are detailed and when it includes feeling values and attitudes (Yin, 2014).

Accordingly, quantitative approach is also dealt directly here with the factors affecting potters in the daily life and has thought to affect the procedure of pottery production. Based on that, the research approach here quantitatively constitutes of a set of component that might link to other meaning of analysis to create observable correlations (Denscombe, 2010).

3.3 Quantitative Research Design and Strategy

Implicitly, the research design in current research is drawn to demonstrate the initial research questions, which seem to be bulk engine of research (See Figure 3.2). In the most elementary sense, the fundamental frame of research accordingly focus on collecting quantitative data based on a background of pottery production system in some selected cities of Malay Peninsula. The aim of drawing a strategy of constructing parallel data is to restrict the research area in order to be stretching from the North to South and from West to East of Malay Peninsula. By other meaning, the strategy of research is designed comprehensively to cover Malay Peninsula's states from north to south such as Johor, Perak, Penang, Kedah, and Kuala Lumpur; additionally, from east to west of Malay Peninsula such as Melaka, and Negeri Sembilan.

Current research endeavours to achieve the main aim of study, which is represented in a set of influential factors affecting on pottery production through investigating the impact of previous-mentioned factors on potters. Examining the impact of these influential factors on potters is regarded the affective way of getting precise results. Such aim follows with a set of objectives are attributed sequentially through relevant questions.

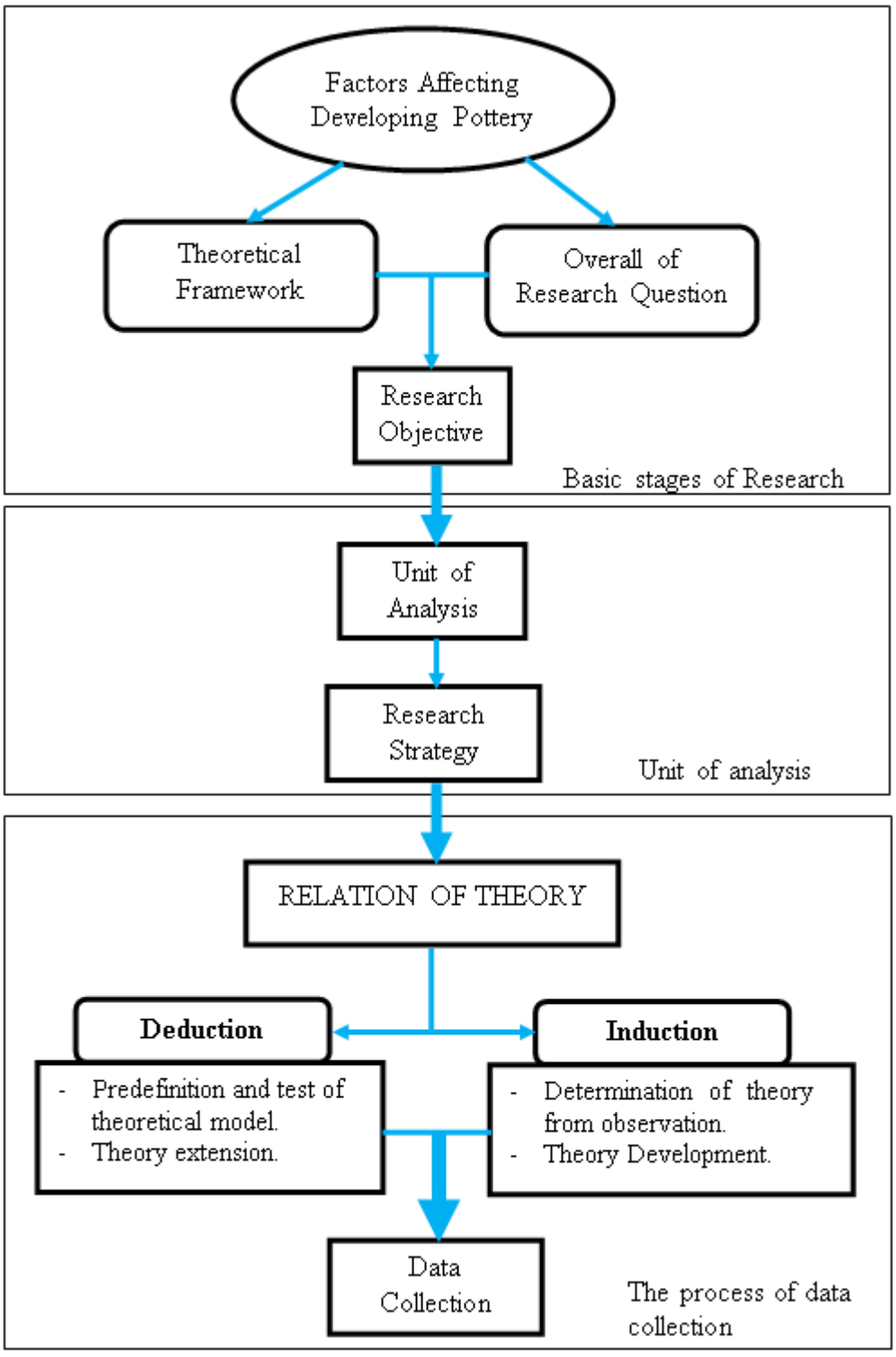

Figure 3.2: Model Processing of Methodological Choice.

In the attempt to identify the differences among production in terms of age and marital status diversity, the question posed would be: "Is there any difference between the groups of potters in terms of gender and marital status?" the most relevant question, which is typically able to reveal the linkage between two phenomenon, products

diversity with gander and marital status differentiation. According to the other objective of investigation the significant differences of pottery production through ethnicity, career affiliation, and regional differences, this objective is the most closely question, which would clarify the objective of difference between pottery production in terms of ethnicity, career affiliation, and regional differences?.

The last question, which constitutes the main part of the research design, revolves around a set of factors that are expected to influence a potter, which in his/her turn would transfer such external influences to their pottery production. These factors are market status, government's initiative, economic factors, ecological factors, ritual factors, and social factors. These factors are assumed to have direct relation with the reliable principles of pottery production (i.e., types and techniques of pottery production).

Conclusively, this research is designed to prove the validation of factors affecting both potters, and their products; as well as, to highlight the difference appears in pottery production through the potters' properties, such as gender, marital status and age; as well as, ethnic/race, career affiliation, and regional differences.

3.4 Theoretical Framework

There are many approaches specialized in the social studies, particularly in what regards the art with all its vocabulary. Accordingly, theoretical framework emits a set of theories based on the nature of the study taken in account. Yet, the various models of different social concepts are assigned to be served as conceptual framework; each guides the observer through a systematic study. In this part, three different theories are employed to be chosen in the following order: Charles F. Montgomery, Jules David Prown, and E. McClung Fleming theory.

3.4.1 Jules David Prown

Theory selected here for ceramic analysis study, is typically undergone in its approach to some modifications that are appropriate with the study background and the researcher's interest. Thus, the concept of authentic in an object is used repeatedly in this selected theory. Indeed, the study of culture, which is the central focus in Prown theory, is intertwined between multiple disciplines and particularly our field of study. Material culture is concerned about cultural influences, and the objects defined via the cultural perspective in the theory. Prown theory from the viewpoint is generated for most studies of craftsmanship, aesthetic aspects, and the types of quality materials used in an object (Prown, 1982).

Prown proposes a preliminary model of object analysis in his book "*Mind in Matter*" that was designed with three stages, *descriptive, deduction*, and *speculation*. In addition to his model, he proposes a structure of classifying several types of objects in material cultural studies, ranging from aesthetic objects, and progressing to utilitarian (Prown, 1982). Prown conceptual framework for object analysis is flexible for the study of any artificial object, posing the necessary questions needed for artificial object analysis.

The summary of Prown's theory might give a link to the fundamental concepts drawn in our study's model. Basically, Prown's theory expresses intensively the meanings of material culture and the phenomenon of cultural interaction between individuals, their ecological and cultural surrounding as Deetz (2010) states: "the vast universe of objects used by mankind to cope with the physical world, to facilitate social intercourse, and to benefit our state of mind". With more explanatory, such theory reflects the main respects of our model, and copes with most material cultural components, as well, the social factor in particular; as this study posits existence influential interaction between production process and social factors. Accordingly,

social factor falls under the multi-disciplines, which are relevant to outside-cultural effects, and more focally concentrates on the interpretation of potters' personality and their physical surroundings.

3.4.2 Charles. F. Montgomery

This theory, which conceived by Charles F. Montgomery, is organized into fourteen points. He originally presented his concept in the American Walpole Society Notebook in 1961, and it appeared under the title "Some Remarks on the Practice and Science of Connoisseurship", but it reappears in Schlereth's book in 1982, Material Culture Studies in Americans "*The Connoisseurship of Artefacts*". Furthermore, his model's design was originally intended to be used by connoisseurs, but can be utilized and applied on any material cultural object; (Schlereth, 1985) and it can address various subjects such as historic events, literature, fine arts (architecture, painting, and sculpture), and decorative arts (Behrens, 1998; Whalen, 2001).

Montgomery's theory is highly organized with a clear and a concise approach for documenting and authenticating an artificial object, primarily used in antiquities. Montgomery theory focuses on the process of authenticating the artificial object as well as factual accuracy. He also focused much attention to the analysis of authenticity, reproductions, and restorations, which would greatly affect the value of artificial object. Therefore, we personally support the idea of existence a solid relation between indigenous cultures and the traits of artificial objects' design; which such relation can be observed evidently in the distinct traits of Malaysian pottery products. It meets with Montgomery's assertion of that the degree of ornamentation in an artificial object extremely diversifies from culture to culture (Thomas, 1982).

3.4.3 E. Mcclung Fleming

The final theory of artificial object analysis was structured by Fleming in his book "*Artefact: A Proposed Mode"*. This theory was developed with the context of

analysing early American decorative arts. There are two conceptual tools in this model, and five classifications (Fleming, 1970). In the worksheet of his model, an organizational tool in performing operations is presented in each classification during analysing an artificial object. The five classifications are, history, material, construction, design, and function, Fleming describes each of these classifications. History is the how, where, when, by whom for whom, including other considerations of ownership, condition and function. Material is the physical materials of which an artificial object is made of such as wood, fabric and other mediums. Construction is the techniques and skill of how it is made and how the artificial object's parts are organized for it is function. Design is the structure, form, style, decoration, and iconography of an artificial object.

The most relative element in his theory to our model is the "function" in which the use and roles of the objects would make a reflection to the culture aspects and might put the potters in profound touch with their culture. Fleming refers to the basic five properties mentioned previously as, "a formula for including and interpreting all the significant facts about an artefact"(Fleming, 1970, P. 570). Yet, predictably, these five properties (Structure, Form, Style, Decoration, and Iconography) are the basic elements which incorporate all types of pottery production integrated with the social factor. In our theoretical model, Fleming theory is inspired of the issues appearing in the dependent variable (production pottery).

3.5 Population

This section is centralized on the significant elements of population (samples), which are considered the target samples of the study. These samples are particularly targeted as the following category: (1) Governmental potters, (2) Semi-governmental sectors, and (3) Private sectors of potters and/or individual potters. The target population of current study has been distributed on household potters (individuals) and

ceramic shops with a number of 75 respondents; and Semi-governmental sectors in a number of 142 respondents distributing randomly upon manufacturers of ceramic, handmade centres, and voluntary craft centres; and finally Governmental sectors, which are represented of Craft complexes, Malaysian Cooperative craft centres, with respondents number of 283. These targeted samples have been selected from seven cities of Malay Peninsula, which are Johor, Perak, Penang, Kedah, Melaka, Negeri Sembilan, and Kuala Lumpur that all comprise different categorical samples. However, it is worthy to note that Selangor and Kuala Lumpur have been considered in current research as one city "Kuala Lumpur". The rational of selecting these cities among other cities of Malay Peninsula is that these selected cities are attributed to a certain traits such as socialization and cultural interaction and mixing with adjacent countries, which in turn might highlight the issues of ethnicity and authentic profoundly. For instance, the North part of Malay Peninsula is linked through border land with Thailand, and the South part of Malay Peninsula is associated with Singapore. As well, from the West part across the strait of Melaka is the island of Sumatra (Indonesia), and East part is matched with the island of Borneo (Hirschman, 1986). This notable regional overlapping can emphasize the idea of ethnicity and authentic similarities.

Moreover, in the general definition of Malay Peninsula population, approximately 80% of aboriginal Malaysian's population are settling in the most economically sophisticated states of Malay Peninsula (Hirschman, 1983); as it lies over the most territories crossing Thailand and Singapore. Additionally, the themes of ethnicity and authentic have gained a great significance in most ethno-archaeological studies addressing the objects of pottery. Such themes therefore possess special significance in our study and can be materialized through the characteristics of Johor, Perak, Penang, Kedah, Melaka, Negeri Sembilan, and Kuala Lumpur.

The rationale reasons for selecting Malay Peninsula are due to (1) it is regarded the significant strategic part of Malaysia, which is more sophisticated part in Malaysia. (2) It has acculturated with the mixed peoples and developmental economic. Thus, it is thought that the selected cities of Malay Peninsula have the eligibility to attract large number of indigenous potters with their different technical skills, which in general has been borrowed from the cultures of neighbouring countries. Further, this aspect of cultural diversity would grant Malay Peninsula the distinctiveness to being approached by researchers from through different backgrounds.

3.5.1 Sampling Design

This study is counted exploratory study that is carried out mainly by quantitative approach to give ideal values to the procedure of data collection. Yet, the data of this study is manipulated to examine the relations between a set of factors assumed to influence certain types of pottery and the techniques using in pottery production through potters (producer).

Houthakker and Magee (1969), Taplin (1973) in their studies specify the influential factors influence the productive process with stressing the values of quality and demand in the productive process; additionally, Hickman and Lau (1973), could give evident example of existence influences in the parts of productive process posed on samples of supplemental products and demand. Titus (2013), his model was drawn according to equivalent definitions of supplemental products. Consequently, combinations of studies (Vandiver & Chia, 1997; Noordin *et al.*, 2012; Wray, 2010) handle accurately the nature of supplying pottery products with their domestic aspects. Moreover, it is hypothesized accordingly existence differences among pottery production has caused due to the diversity in the gander and ethnicity aspects among the potters.

The sampling process is employed here to determine a specific number of potters from the holistic census of handicraftsmen who constitute the total number of all population. The strategy of selecting specific number is based on some regions in Malay Peninsula which are earmarked for particular reasons in the current study such as Johor Bharu, Perak, Penang, Kedah, Melaka, Negeri Sembilan, and finally Kuala Lumpur. Particularly, selecting a specific number of potters as target samples from the holistic number of Malaysian potters assists to enhance the properties of considered population in current study (Sekaran, 2006; Babbie, 2013).

For avoiding the complexity and difficulties in managing the time and effort, selecting specific samples of Malay Peninsula was taken in account in order to generate the results on whole Malaysia, and also demonstrate the problem statement of research accurately and then give actual statistic of research population parameters (Hirschman, 1986).

3.5.2 Sampling Techniques

According to the techniques of sampling population, Non-probability- "Judgmental sampling"- is the technique assigned in this study for sampling population. This technique reasonably is regarded the more appropriate technique in our study for achieving convenient sampling. Therefore, judgement in chosen samples depends on researcher's predication for selecting appropriate samples (Sandifer & Sekaran, 2000). In this regard, the method of selecting samples is required to be applicable for all criterions of selected samples. The purpose of determining this method for sampling population is because of that most samples are indeed those producers who are involved with pottery materials directly and have strong bases of knowledge about the various techniques of pottery production. Therefore, it is assumed that those people are mostly capable to answer the questionnaire based on their experience of real living standards. However, the most chosen samples of potters for this study have their own complete

background of knowledge and are more experienced in what regard empirical life; but most likely, these samples have been inherited their popular knowledge from their ancestors, which is absolutely in most cases quite far of scientific background.

The construction of sampling process in the present research is derived from the disciplines of social science and empirical behavioural research. Although, such disciplines are in some cases lacked to precise theories, which drive the variables to get valid and reliable measurement in most social research and implementation research (Sethi & King, 1991; Rai & Bajwa, 2007). But, these kinds of disciplines appear to be more fitted with this study.

Sampling process contains selecting typical individuals among the members of society based on special rules. Sampling methods are different (Yates, 1949). The method used in this study is non-probability for sampling the size of respondents. According to the information, which has been taken from statistical department, the general census of all potters scattered on different states of Malaysia is approximately 9,228 potters[12]. However, this statistical census cannot be approved reliably. Thus, due to difficulty in obtaining accurate statistics of specific number of potters, the strategy of sampling target respondents here is designed as "Non-probability" technique. Worthy to note that, the results of studies conducted using non-probability technique in data collection are mostly having extreme limited values (Lucas, 2014).

3.6 Unit of Analysis

Unit of research is a section conveying basic concepts of this study to enable respondents to answer the questionnaire (Babbie, 2013). Current study indeed contains sequential units of theories that are presented to match with the techniques of data collection, and with the units of analysis that all are organized in the same level.

[12]Statistical census has been taken individually from the statistical division of Ministry of Culture, Art, and Heritage.

The broad lines respecting to targeted samples have been outlined in this study, which are governmental organizations, Semi governmental organizations, and private organizations. The first sector consists all potters who are employed by government; that are mostly representative of craft complex centres such as craft cultural complex, Perbadanan Kemajuan Kraftangan Malaysia (Kompleks Kraf Kuala Lumpur), Taipan Floral Art & Craft Centre, Malaysian Handicraft development corporation..Etc. Meanwhile, other sector is considered as semi-governmental organizations such as handicraft manufacturers, including all potters who are employed by semi-governmental manufacturers such as (Oriental Craft Gallery Sdn Bhd, Jaya Enterprise, Macy Sdn Bhd, LiewFah Trading Sdn Bhd, Everyday-use Handicraft, Kompleks Budaya Kraf, Perbadanan Kemajuan Kraftangan, Cottage Patch Sdn Bhd, Yi Xin Craft & Gifts Sdn Bhd); the other kind of the samples is the private sector which contains all potters are attributed to private companies and/or household potters such as Eastern Craft Ornament Enterprise, Naraicop Sdn Bhd, Seven Lilacs Candle Art, Muzamal Ventures Sdn Bhd, and finally Zhulian Golden Business.

The various types of samples are being taken in equal consideration in the present study. Moreover, there is designed with regard to potters' knowledge and interests in each sort of potters' categories. However, the three main categories constitute the key role which capable to address all other kinds of potters. For instance in craft complex, there are verity of potters, which are classified during distribution process in accordance with their skills to either hand-built section, wheel section, casting section, coiling, and machinery section; same goes with semi-governmental sector and/or private sector. This diversified distribution of potters has appeared to display the notable differences between pottery techniques. Although, Keith Nicklin (1979) has recognized the differences between hand-made and wheel techniques but he stresses that this difference is not huge "the differences between hand-made and wheel

techniques of pottery are not so great" (Nicklin, 1979). Accordingly, this illustrates our vision in what regards of potters' distribution, and gives us impression that potters can hold more than one technique based on their skills.

3.7 Development Section of Hypotheses

In this part of research a set of conjectures are improved. Indeed, the presented hypotheses in this section have been elicited from the research questions 1 to 3. A set of hypotheses are designed to be examined in the form of statistical hypotheses. Theories are regarded the review of all the recorded data and are used to develop the present research.

Yet, the development form of hypotheses is as following:

***Hypothesis 1*:** There is diversity in the pottery production (types and techniques) according to the differentiation in gender and marital status.

Sub-H 1/1: Selected types and techniques of pottery differentiate according to the various categories of gender (female and male) which have an impact on the pottery production.

Sub-H 1/2: Selected types and techniques of pottery vary significantly according to different categories of marital status (single and married) which influencethe pottery production.

Hypothesis 2: There is diversity in the pottery production (types and techniques) basedon different variables of age, ethnic/race, career affiliations, and regional differences that influence the pottery production.

Sub-H2/1: The variances among different groups of potters in terms of age might stimulate diversifying types and techniques of pottery production.

Sub-H 2/2: The variances among various groups of potters in respect to ethnic/race aspect might influence types and techniques of pottery production

Sub-H 2/3: The differences among groups of potters in terms of career affiliation might lead to diversifying types and techniques of pottery production.

Sub-H 2/4: The variances among groups of potters in respect to different regional states might lead to diversification in pottery production.

Hypothesis 3: The socio-economic and socio-culture factors such as Market Status, Government's Initiative, Ecological, Ritual, Social, and Economic Factors are assumed to have an impact on the pottery production, which contains selected types and techniques using in the pottery production.

To verify the impact of this set of factors, there are some sub-hypotheses are designed to be tested statistically.

Sub-H 3/1: Market Status influences pottery production that containsseveral types and techniques of pottery.

Sub-H 3/2: Economic Factor influences pottery production that consists of different types and techniques of pottery.

Sub-H 3/3: Government's initiative affects the pottery production that contains several types and techniques of pottery.

Sub-H 3/4: Ecological Factor affectsthe pottery production which containsdifferent types and techniques of pottery.

Sub-H 3/5: Social Factor influences the pottery production that comprisesdifferent types and techniques of pottery.

Sub-H 3/6: Ritual Factor affects the pottery production which comprehensive different types and techniques of pottery.

3.8 Conceptual Framework of Design

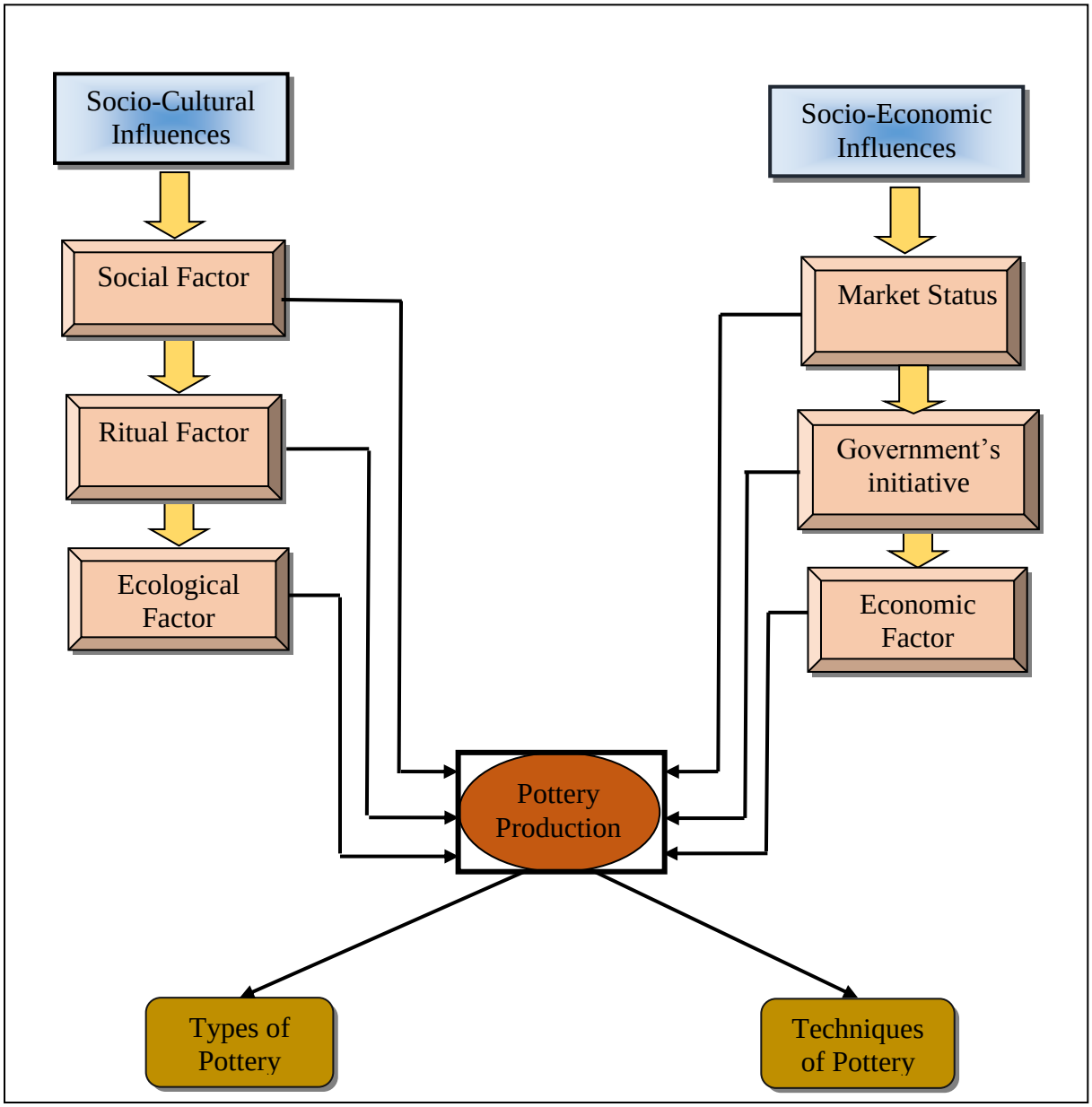

Figure 3.3: Overview of Conceptual Framework Design Indicates the Direct Relations Between Assumed Variables with the Pottery Production.

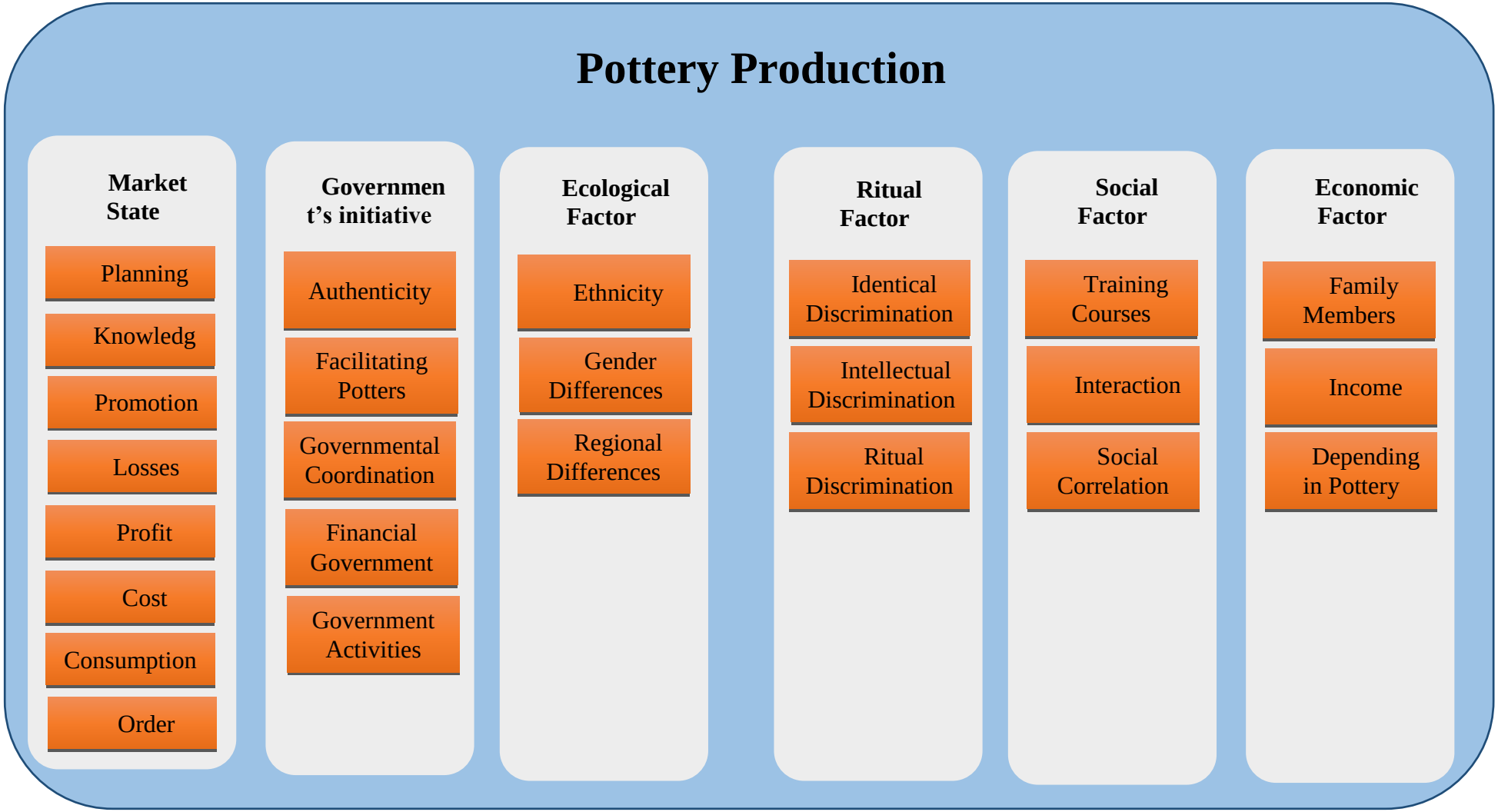

Figure 3.4: Conceptual Framework Displays the Indicator of Each Construct Variable and Their Association with Pottery Production.

Initially, current research presents the constructive model of theoretical framework (See Figure 3.3; 3.4), but the construction of this model is built to be absorbed through indirect ways of measurements. Some parts of such theoretical model would be illustrated by a set of theories addressing both quantitative and qualitative studies.

This research has been designed conceptually through artificial design to examine the factors affecting the producers (potters) into the production process, and the role of such affects for enhancing the productive process through two basic components (Type of pottery products, and Techniques of pottery products), which these components are in turn equal with a set of descriptive phrases such as (intensification, types of product, and skills of performance). Therefore, based on literature-review, the factors such as Market Status, Government's initiative, Economic Factor, Social, Ritual, and Ecological Factors are supposed to get authentication in present model. Here, we display briefly some justifications taken literally to stress the extents of affects that might influence potters through the mentioned factors.

3.9 Measurement of Variables (Independent and Dependent)

A set of variables have been developed through a combination of concepts mentioned in the literature review, and would be addressing here through the context of theoretical construction. The following discussion explains precisely the concepts, which are being to be measured in the design of theoretical framework. The following section are in fact regarded a definition of each measure that would describe in the theoretical framework (See table 3.1).

Table 3.1: Shows The Concepts of Independent and Depent Variables Are Determined in the Conceptual Model.

CONSTRUCTS	REFERENCE	SECTION IN QUESTIONNAIRE
Input Variables		
Independent Variables		
Market Statue (MS)	Evans and Berman (1988), Abebe *et al* (2010), and Hut and Speh (1984)	Ordinal style. Section 1(Order- Consumption-Cost-Profit-Losses-Promotion-Knowledge-Planning)
Government's initiative (GI)	Pye (1988)	Ordinal style. Section 2 (Government Activities-Financial Governmental Supporting-Governmental Coordination-Facilitating Potters)
Economic & Ecological Factor (E & E F)	Malaysia (1992), Pye (1988), Wendy Moore (1998), and Arnold and Munns, (1994) Arnold (2000), Stark with the team of her colleagues (2000), and Wobst (1977)	Ordinal style. Section 3 (Depending in Pottery-Income-Members of Family) Followed section 3 (Authenticité-Ethnicité-Gander-Régional Différences)
Ritual & Social Factor (R & S F)	Xu *et al* (2009), and Xiaoyuan Yang (2007) Kramer (1985), Gosselain (2000), Silverman's (2010), Hegmon (1992), and Wiessner (1983)	Ordinal style. Section 4 (Ritual Discrimination-Intellectuel Discrimination-Identical Discrimination) (Social Corrélation-Interaction-Training Courses)
Output variable		
Dependent Variable (DV)		
Types of pottery production (Qualitaties of products)	Kramer (1997)	Change the style from Scale to Ordinal. Section 5-B (Platters-Mugs-Bowls-Pitcher-Urns-Pots-Vessel-Vases-Complementary House Furniture)
Output Variables		
The Skills of production performance (Techniques of Pottery Production)	Olausson (1998); Munan and Foot (2001);Underhill (1996) ; J. White, and V. Pigott (1996).	Change the style from Scale to Ordinal. Section 5-C (Hand-built, Casting-Wheel-Moulding-Machinery equipments)

3.9.1 Independent Variables (IV)

The definitions of input or independent variables are being presented and discussed respectively in the following paragraphs. These are organizationally: Market status, Economic factor, and Government's initiative concepts that are fallen into the socioeconomic perspective; alongside, the concepts of Social Factor, Ritual Factor, Ecological Factor are all fallen into the Socio-Culture perspective (See table 3.2).

3.9.1.1 The Definition of Economic Status and Pottery Production

Economic is defined as a fundamental affective factor for organization of indigenous products and organization the financial benefits for the aboriginal producers (potters). This factor often relates with the themes of income, member of family, and finally dependent on pottery. While, the last one dependent-on pottery is related with the idea of stability that is a critical elemen.t for increasing production (Brown, 1977). In other meaning, focusing only on pottery production and the potters' attention to give their full time for producing pottery might assists to enhance production of pottery and increase the value of local economic in the country. From other hand, relying potters on pottery as a primary resource of their income is a justification of apparent increased rate of revenues resulting mainly from focusing on the porcelain industry and the development of local production export. Pye (1988) in the economic definition, concentrates on income and the member of family which are regard crucial factors influencing pottery production. Hypothetically, it is assumed that big family often has a chance to distribute the roles between all members of family and produce a large amount of pottery daily; in contrast to the small family where only one producer is active.

3.9.1.2 The Definition of Social Factorin Pottery Production

Silverman's (2010) presented an evident definition of social factor in pottery "social factor is a body of general knowledge about socio-cultural phenomena". Social aspect is in fact a reflection of ceramic ethno-archaeology. On the other hand, social characteristic is recognized by the behavioural diversity in the societies producing pottery. Kramer and Judd (1985) state other definition of pottery that "pottery reveals the correlation between potters and the hierarchal lifestyle". Xu *et al.* (2009) citied literally, a definition of social factor in his study as was summarised in three elements that are thought to affect on pottery production. These are as following social correlation, interaction, and training courses. In most perspective of archaeology and ethnography, the issue of migration and population movement have been stressed through the peoples' linkage to the regional interaction. Interaction is one of the key issues was interpreted socially within the framework of movement of population and diffusion (Anthony, 1990; Cameron, 1995).

3.9.1.3 The Definition of Ritual Performance in Pottery Production

Pottery signifies its holy stature particularly among conventional population. Silva (2008) emphasizes the most important activity taking place during the religious rituals, which is the production of the great volume of ceramic vessels. Further, pottery in terms of religion is reliable definer for the ritual beliefs, which are recognized in the conventional societies in particular (Mudar, 1993). In current model of theoretical framework, pottery is represented in the context of ritual performance into ritual, intellectual, and identical discriminations. Pottery production is defined in many conventional countries as a mean to represent the ritual beliefs in one hand, and reflect the population's identity from other hand.

3.9.1.4 The Definition of Ecological Factorin Pottery Production

In the context of ecological factor, the main apparent points that direct our focus towards illustration of ecological concept are: (1) Authenticity, (2) Ethnicity, (3) Gender Differentiation, and (4) Regional Differentiation. Yet, the attention towards identifying the ecological materials and their influence on pottery production is posed by Neupert (2000), which is regarded another direction in pottery production. Therefore, Socio-ecology is the prominent factor in such orientation that assists to determine the clay, which is used ecologically, and other materials according to the regional diversity.

Habitually, ecological factor is defined as a mean for achieving the relationship between the spatial context of production and the social linkage among producers (Neupert, 2000). The nature of environmental factor with respects of artificial disciplines is thought to affect differentially on the nature of sexual producers either female or male potters.

3.9.1.5 The Definition of Government's Initiative in Pottery Production

The variable of government's initiative expresses the role of government particularly in the craft development's phenomenon. Government initiative is the factor that is highlighted by striking a balance between revenue increase and stimulate the potters to increase their income (Pye, 1988). According to the governmental strategies that are presented annually for the sake of pottery development, pottery in somehow owes its development to the government's effort. The government's role would discriminately be observed through a set of government's initiatives such as Government's activities, financial government, governmental coordination, and facilitating of potters. Therefore, many ministries are employed to run their plans such as cultural activities. These are listed as following: Ministry of National and Rural Development (MNRD), which is regarded the main body to take the responsibility of developing the traditional industry in the rural areas; as under this ministry, there are

plenty of programs, agencies and organizations are established. Additionally, among the most significant governmental agencies, which promote the development of handicraft industry, are the village industries Division, the Community Development Department, the Malaysian Handicraft Development, Corporation Headquarters (MHDC), the Karyaneka Marketing Sendirian Berhad, the Batik Malaysian Berhad, and the Council of Trust for Indigenous People. The general objective of the agencies is to develop, promote, and intensify handicraft production activities, besides facilitating their growth for expansion into small-scale enterprise. Hence, the annual handicrafts programs organised by a set of specialized ministries confirm the governmental role of developing handicraft industries.

3.9.1.6 The Definition of Market Status in Pottery Production

Rural marketing defines as the founder for the nerve centre of rural development activities. Rural marketing is also divided into two ways of marketing process: (1), marketing products that are often associated with the rural areas style; (2), and products which are fitted with the urban areas' style. Yet, rural marketing system is established by buyer, seller and the third part that is the merchants whose role is to transfer the artefact goods from producers to consumers with following all sale and purchase' conditions (Abebe *et al.*, 2010).

The factor of market status can be represented by a set of effective elements such as order, consumption, cost, profit, loss, promotion, knowledge, and planning. Moreover, marketing and promotion, which reflect the marketing potentiality, have been mentioned in the scheme of ninth Malaysian plan that, "marketing and promotion efforts will be intensified to sustain the competitiveness and attractiveness of home-grown products and services" (Malaysia, 2006).

3.9.2 Definition Of Dependent Variable (DV)

Dependent variables are formulated fundamentally from the definition of pottery production. Accordingly, pottery products have been considered as one object of crafts that are established by the producers' skills using different techniques of pottery. Here, craft production was habitually defined respectively with the contextual definition of specialization, scale, and intensity (Costin, 1991; Dias, 1991). Production pottery, which is axis focus in the current study, is adopted as dependent variable that has various scale of measurement that are being tested through, (1) types of products, and (2) the techniques utilising in the pottery production (See same table 3.2).

The two mentioned criteria of (1) selecting an appropriate types of pottery, and (2) the skills of potters, which are visibly observed through suited techniques, are the most equal criteria that would be chosen in the pottery production. These criterion elements of pottery production are assigned to evaluate the scale of production. The elements were designed based on goals, objectives and a procedure of quantifiable data that is being collected in such research for the purpose of affording the valuable information about pottery (Wailes, 1996). The table below displays the series of variables (Independent and Dependent Variables) and their association with the questions stratified in certain sections.

Table 3.2: Shows the Estimated Indicators with Their Components, Which are All Allocated in Dependent, And Independent Variables.

Section	Types of factors	Factors affecting the production process	Dimensions	Questions
A	Socio-economic Factors	Market Status	Order	10-33 (23 items)
			Consumption	
			Cost	
			Profit	
			Losses	
			Promotion	
			Knowledge	
			Planning	
B		Government's initiative	Government Activities	34-45 (12 items)
			Financial Governmental Supporting	
			Governmental Coordination Facilitating Potters	
C		Economic Factor	Depending in Pottery	46-54 (9 items)
			Income	
			Members of Family	
z	Socio-culture Factors	Ecological Factor	Authenticity	55-67 (10 items)
			Ethnicity	
			Gender	
			Regional Differences	
E		Ritual Factor	Ritual Discrimination	68-76 (9 items)
			Intellectual Discrimination	
			Identical Discrimination	
F		Social Factor	Social Correlations	77-86 (10 items)
			Interaction	
			Training Courses	
Section				
	Types of factors	Factors affecting the production process	Dimensions	Questions
A		Types of Pottery Products	Platters	90-98 (9 items)
			Mugs	
			Bowls	
			Pitcher	
			Urns	
			Pots	
			Vessel	
			Vases	
			Complementary House Furniture	

Table 3.2, continued

Section	Types of factors	Factors affecting the production process	Dimensions	Questions
B		Techniques of Pottery Production	Hand-built (Coiling)	99-103 (5 items)
			Casting	
			Wheel	
			Coiling	
			Machinery equipments	

3.10 Questionnaire Design

The questionnaire consists from three pages and has been created as self-administrated questionnaire. It is the main tool which researcher has been relied on to collect the information that is originally composed of approximately 103 questions included within two parts:

Part One includes demographic information such as age, gender, race, marital status, educational level, company belonging, type of work, current place of residence, and total household income.

Part Two contains five sections which each section has a set of sub-sections such as in section one: market status; section two: government's initiative; section three: economic factor and ecological factor; section four: ritual factor and social factor; section five contains two components (Types of Pottery Products; and the Techniques of Pottery Production).

Each sub-section contains a set of elements that fall under a set of items. For eample: market status contains (Order, Consumption, Cost, Profit, Loss, Promotion, Knowledge, and Planning). Government's initiative contains (Government Activities, Financial Governmental Supporting, Governmental Coordination, and Facilitating potters). Economic Factor comprises (Depending in Pottery, Income, and Member of Family). Ecological Factor has (Authenticity, Ethnicity, Gender, and Regional

Differences). Ritual Factor contains (Ritual discrimination, Intellectual Discrimination, and Identical Discrimination). Finally, Social Factor (Social Correlation, Interaction, and Training Courses).

In the section five, there are two questions specify the components in types of pottery products, and the skills of techniques are applied in pottery production. Yet, the first component is constituted of nine selected types (platters, mugs, bowls, pitcher, urns, pots, vessel, vases, and complementary house furniture), while second is about (hand-built (coiling), casting, wheal, moulding, and machinery equipments). Moreover, most parts of questionnaire' items were created by elicitation process of statements that are related to the literature review. According to the techniques of questionnaire construction, the nominal and ordinal techniques were employed to demonstrate the conditions of statements whether to be responded by Yes or No in nominal technique or by using the Likert Scale of 1=strongly disagree to 5=strongly agree in ordinal technique.

3.11 The Questionnaire of Study

The questionnaire is a basic tool that is directed fundamentally for the purpose of gathering data, which has been used in most archaeological and ethno-archaeological studies. The questionnaire often consists of a set of goal-directed questions which measure the respondents' view and knowledge by using various scales (Gay & Diehl, 1992).

The research is examined in the format of three major hypotheses, which the first is divided to set of sub-hypotheses. Such set of hypotheses are a fundamental axe of questionnaire and are formatted as a set of sections into the questionnaire. Each hypothesis meets with corresponding supportive question drawn as a section in the questionnaires. Regarding to the structure of questionnaire, the sheets of questionnaire

used in data collecting were attached with cover letter and provide to the respondents with the main purpose of research and confirming the anonymity of respondents' individuality.

In accordance to the type of questionnaire, a self-administrated questionnaire appeared to set with the techniques of data collection and habitually fits with different types of data collections adopted in most of social science studies (Bourque & Fielder, 2003; Babbie, 2013). In the technique of self-administrated, researcher would rely on the plan drawn for managing the responses, attitudes, time, and efforts.

The rational of choosing questionnaire as a fitted method using for collecting data is due to its ability to overcome many of research problems. Thus, survey here is regarded a common approach that is utilized to determine the presence of specific data which is dealt occasionally with close-ended questions.

The type of close-ended is applied specifically in the empirical study. Alongside, current study is assigned to reveal the characteristics, interrelations of sociological and psychological variables (Roberts *et al*., 1999). Marsh (1984) illustrated that survey method as main tool has some keys advantages.

3.12 The Sequential Phases of Developing Questionnaires/Instruments

As it is known, questionnaire is the most widely used data collection methods in evaluation research. Therefore, constructing such research questionnaire has taken long period and passed through several phases to be reconstructed by scientific manner.

In this section, the process of developing and testing questionnaire is illustrated through five steps: research background, questionnaire conceptualization, format and data analysis, and establishing validity and reliability (See Figure 3.5).

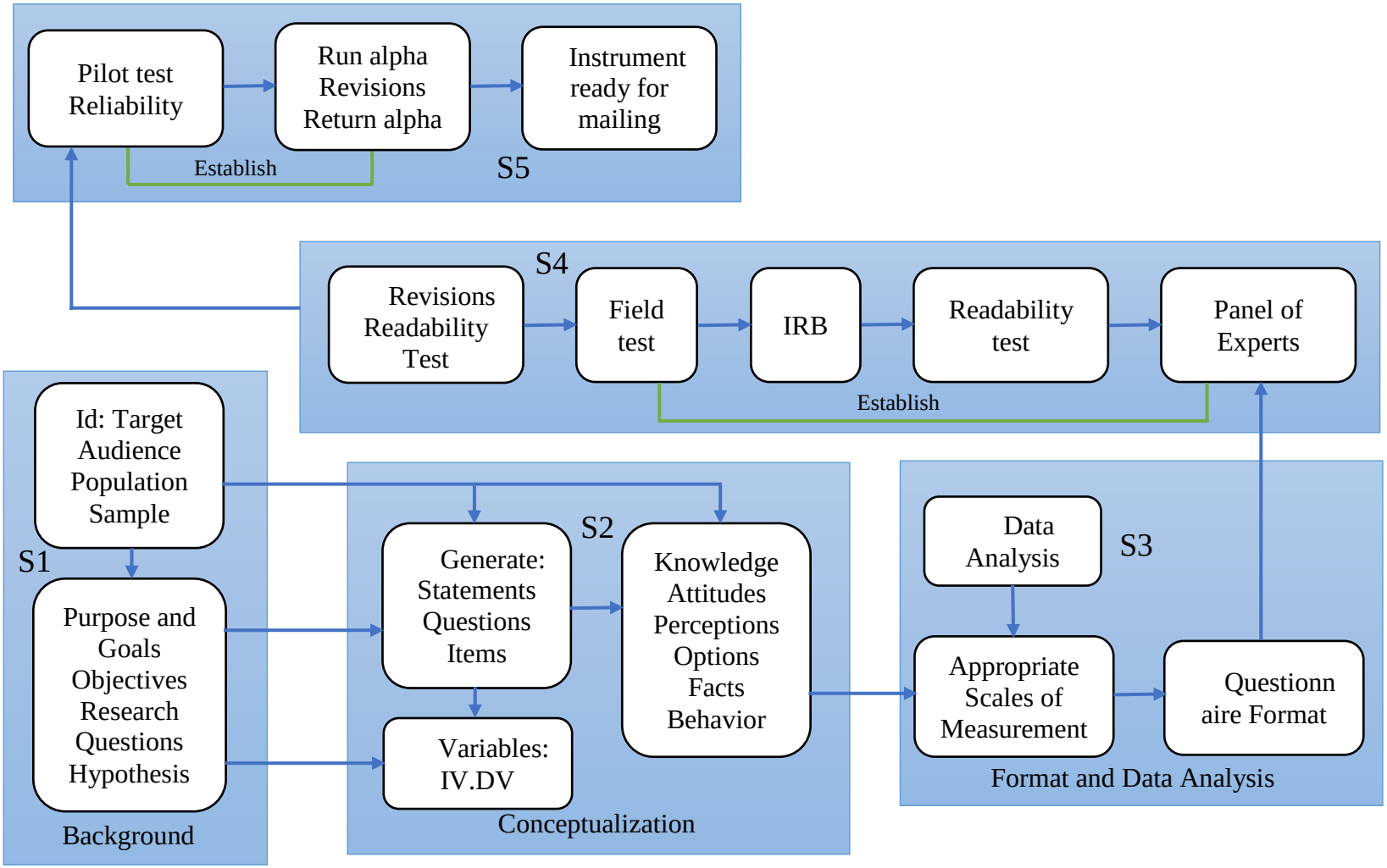

Figure 3.5: Sequence of Steps Taken for Questionnaire/Instruments (Radhakrishna, 2007).

3.12.1 STEP 1: Background

This is the initial step which has been taken by researcher as a base for reaching to further steps. The aim of this step is to clarify the purpose of study, objectives, research questions, and hypotheses of the proposed research (refer to S1 in sequential design of questionnaire in Figure 3.6. Additionally, determining the selective test of potters' groups, their educational background/reliability levels, access, and the process used to select respondents (testing of sample size "population") are regarded a part of such step.

3.12.2 STEP 2: Questionnaire Conceptualization

The next step is to generate statements/questions for the questionnaire. This step has taken out from (literature/theoretical framework) which were transformed into statements and/or questions format. As well, such questions are extracted from the objectives of the study, which have been translated into content/statements. For example, the researcher must identify the nature of questions that are intended to be measured with taking in account the knowledge, attitudes, perceptions, opinions, recalling facts, behaviour change. Etc; in addition to, identifying the nature of major variables (e.g., independent, dependent variables).

3.12.3 STEP 3: Format and Data Analysis

This step began with writing statements/questions, selecting the proper scales using for measurement, question ordering, format, questionnaire layout, font size, front and back cover, and the analysis of proposed data. Determining scales is the most important in this step, in which it is designed to quantify the subject's response and transform it into particular variables. Therefore, researcher found the relationship among the different levels of measurement that are used in the prepared questionnaires, which are nominal and ordinal. Nominal is designed for ethnographic data of

respondents and ordinal for other fundamental statements, with appropriateness of data analysis. Furthermore, "T.Test" is a mode of analysis that is chosen for the statements that comprise of two parameters only; and "ANOVA" is the mode of data analysis, which is selected to measure the level of statements that contain in some cases nominal scale (two or more levels), and/or ordinal scale is scoring (strongly agree to strongly disagree).

3.12.4 STEP 4: Establishing Validity

After preparing the questionnaires into steps one and two, draft of questionnaires are ready for achieving the validity of questionnaires. Validity is the vital step explores whether the questionnaires are about to be in systematic manner or built-in error in measurement (Norland, 1990). Validity has also been conducted through a panel of experts who had help me to validate the questionnaire of my study. I have displayed my questionnaires on experts from the same field to get their endorsement. Among those experts, Dr. Syed Farid Al-Atas, Head director of Department of Malay Studies, Faculty of Arts & Social Sciences. In addition to, Prof Dr. Anis in the Dance department, culture centre at the University of Malaya. I have been guided by my supervisor and the authorities such the division department of ministry of information, culture, and communication as those have examined the structure of my questionnaire from the view of (content, construct, criterion, and fact) to evaluate the level of appropriateness between holistic construction of questionnaires and the objectives of the study.

The questionnaires cannot get enough of validity without requiring the reliability (theoretically and practically). Therefore, conducting a valid test of questionnaire may have not any value of validity, however, the reliability is prerequisite of validity of a test is not sufficient (Gay & Diehl, 1992). Hence, reliability is other important steps toward creating endorsement of scientific questionnaire.

3.12.5 STEP 6: Establishing Reliability

In this final step, reliability has been carried out through the pilot test. Such step is the strong indicator toward the accuracy or precision of the selective measuring instrument (Norland, 1990). The pilot test seeks to obtain answer of the following question: Does the questionnaire consistently measure all statements according on the objectives?

The reliability type of (test-retest) has been selected as the suitable for the level measurement of data (nominal, ordinal). As the nature of questions that selected in the questionnaire are almost knowledge questions. Therefore, test-retest or ANOVA are more appropriate for such nature of data.

Furthermore, Reliability is established using a pilot test by collecting data from 100-116 cases, which are included in the study's samples. Data collected from pilot test is analyzed using SPSS (Statistical Package 20 for Social Sciences) or another software (partial least square) in order to double-check the results. However, the type of SPSS, which provides the "Cronbach Alpha", has been selected initially for analyzing the reliability data. Cronbach Alpha is used to calculate the coordination of measuring tools such as questionnaire. In such tools, each respondent to the questions can choose any score. To calculate Cronbach Alpha, at the first variance of score related to the subset of questionnaires and then the total variance is calculated to determine the values, (Gay & Diehl, 1992).

3.13 Instrument Translation Process

The instrument of questionnaire, which is utilized here for the data collection, is designed to address the specific groups of potters. The targeted samples, which are chosen from some selected cities in Malay Peninsula, mostly settle in rural states, and most of them specifically did not receive high level of education. According to this, the need for translating the original version of questionnaire to simple words in Bahasa

Malayu was extremely taken in account in order to simplify the meaning of sentences and make them more understandable. Therefore, researcher has sent the original version of questionnaire to an expert team of translators who are natively living in the same states of research location in order to get precise translation with understandable meanings. In the following step, researcher has sent the translated version to another reliable team, which is staff of administrators working in the Malaysian Handicraft development Corporation (MHDC)-Perak Branch. Particularly, those administrators who involve closely with the producers, and have been qualified in different disciplines of craft production for the purpose of rechecking the translation and validation of the translation. Additionally, the administrators are more aware-people in what regards to the reality and cognitive trends of pottery. The further step is the back-translation from Bahasa-Malayu to English again in order to check the meaning of questionnaire. All translation process took roughly two weeks. However, the initial version of questionnaire was verified academically as we have mentioned in the step of establishing validity. Considerably, during the revision procedure that has been conducted by Malaysian Handicraft Development-Perak Branch, a pilot test has been made by the researcher in order to emphasize the validity of applying the questionnaire on the samples.

3.14 Data Collection Method

According to Eriksson and Wiedersheim-Paul, (1991), and Yin, (2014), there are two ways of collecting data, which are secondary and primary data. Secondary data is collected for the section of literature review. This data was collected using academic articles, books, reports, statistical censuses and recorded activities gathered by ethno-graphical fieldworks and reconnaissance surveys to residents of rural states such as Ministry of National and Rural Development (MNRD). The activity of conducting secondary data has followed by the information taken by most governmental agencies.

For instance, researcher has visited the Business of Development of Village Industry Holding/Company in order to collect valuable materials of previous surveys or statistical data of latest census or handicraftsmen and their activities. Accordingly, there was a keen with using this kind of data to make it applicable for our research questions.

In other hand, the other part of data is a primary data that was collected using other instruments. This part of data collection is recognised as primary data, which is the critical part of my study. This part fundamentally is centralized on a set of tools such as observation, recordation, and distributing the questionnaire that are assigned for specific samples of potters. Questionnaire is the most important instrument I have relied on for collecting my primary data. Besides, carrying out the observation and interview to clarify and reconfirm the validity of some statements in the questionnaire. The reason of focusing on questionnaire as a main tool in the data collection is due to the difficulties that might encounter the researcher when trying to get the information, while relying on the interview only. Such obstacles that might encounter the researcher when discard using survey are as following: (1) environmental differences, cultural differences, and the differences of dialects which even the native translator may find some differences in the potters' dialects. However, the main aim of creating questionnaire is to overcome all these obstacles, getting availability to access to selective samples easily; determination of sample size, research objectives and the budget(Venkatesh & Vitalari, 1991). Hence, the nature of questionnaire that is made as self-administered is commonly useable in social science studies due to its advantage for gathering data and verifying the hypotheses that are used to be tested more logically. Thus, questionnaire here is considered the most significant tool among other instruments and have undergone to a set of crucial phases in order to verify the validity and reliability of the structure body and strategies followed during constructing the questionnaires.

3.15 Pilot Testing

Pilot study is designed intentionally to ensure that the questionnaire adequately addresses the relevant issues, and the statements of questionnaire are basically understood. Sekaran (2006) strictly stresses the importance of pilot study for achieving the validity and reliability process during conducting the research instruments.

For achieving pilot study, a certain number of target samples were asked to fill the questionnaire out and give their insights in which regards the techniques and content of questionnaire in order to make sure that questionnaire content is understandable and was professionally compiled. Thus, respondents were required in the end time to give their opinion about the better way for improving presented questionnaire.

The questionnaire was distributed to the respondents in non-sequential periods; the first visit to the fieldwork was begun in June 2012 and then followed by next visit in January 2013 to obtain the final information. First numbers of respondents, who undergone to initial test were 40 respondents; and then extended in the next test stage of pilot study to cover 100 respondents. As well, Pilot study had covered in initial visit four craft complexes and then included in next visit five craft complexes and six manufacturers. The goal of first visit is to identify the concerned factors affecting indigenous potters and gathering the general information of pottery production process conducting in selected states of Malay Peninsula. Again, first visit aimed to construct the background information obtained through interview and also gaining pertinent feedback and inputs from volunteers of respondents. Thus, first visit was conducting for pre-test. As Cavana and Sekaran (2001) demonstrated that pre-test is effective indicator for the construction validity of data. While, second visit is to reveal the ambiguity parts in the case that these parts can be observed in the questionnaire. As Kumar (2010) expressed “a slight ambiguity in the wording of respondents may interpret the questions differently at different times, resulting in different responses, but obtaining similar

responses in each time breeds confidence inside researcher". Thus, the aim of conducting pilot study in different periods is to get similar responses across various times. Further, the method using "test-retest" is appropriate for estimating the consistency of responses within different times. Pilot study was run using SPSS social science package-version 20; and the diagnostic measures of reliability that is assessed by Chronbach Alpha with the lower limit of Chronbach Alpha approximating between 0.60% to 0.70% (MacCallum, 1994; Mackenzie *et al.,* 2005) see Table 3.3 below.

Table 3.3: Shows the Chronbach Alpha of Pilot Study.

Variable	**Cronbach Alpha**	**Cronbach Alpha items deleted**
Market state	0.791	18-24-15-17-32-22
Government's initiative	0.621	42-38-36-40-44-45
Economic Factor	0.55	53-54-46
Ecological Factor	0.805	55-58-66-57
Ritual Factor	0.670	72-74
Social Factor	0.683	80-78-86-82
Types of Products	0.626	98-94
Techniques of Pottery Production	0.59	99-100

3.16 Data Analysis

The coherent of data collection was achieved systematically through the aspect of testability of data collection unit that conducted during data analysis. However, there are some different techniques of testing are considerably treated as main engines in data collection analysis such as reliability, normality, and exploratory factor of analysis. Initially, the core kind of analysis is used in most social science studies and is considered in current study as descriptive analyses, which had run using SPSS and PLS statistical softwares. The software of SPSS had been utilized in such study as a

technique of analysis affording demographic information about the selected samples of study such as age, gender, race, material statue, educational level..Etc. While, partial least square was run for establishing the core analysis of this study.

Accordingly, two routes have treated the data collected by questionnaire: first part of questionnaire has been analyzed using descriptive method (SPSS), which depend on the mean score for analyzing items. While, in second part of questionnaire normality test was run for statistic method of analysis based on parametric and non-parametric that were statistically examine the variables and verifying the main questions of research and hypotheses.

Analysis unit of data collection was conducted into mostly descriptive and inferential statistics. Furthermore, inferential statistic part was examined by using Partial Least Square which runs for the purpose of examine the final objective. PLS is chosen here due to its nature of being fitted for that kind of confirmatory analysis existing often in exploratory studies. The rational reason of running PLS in our study model is that, theoretical background of this study lacks to strong evidences. Therefore, PLS had used here to develop and giving a test propositions (Chin, 1998).

3.17 Summary of Chapter

In this chapter the themes such as research design, the strategies of research design, theoretical framework, and a brief overview of methodologies used in the research are presented with giving the reason of selecting specific samples for the research, rational of using self-administered questionnaire for conducting the survey upon the target respondents, and finally the strategies are used for pilot study.

Generally, literature review of previous studies were managed to provide research questions as main engine of research in addition to other research components. Notably, conducting survey for the purpose of data collection is the effective tool among all instruments of data collection used for gaining precise data. This study has

been allocated to address specific samples in also specific states of Malay Peninsula that have been chosen rationally in which complies with the objectives of research and the distinct of geographical nature of those regions.

Accordance of data collection, more information have been illustrated in data collection including the strategies and techniques of data analyzing that habitually appropriate with the nature of data and the social statistics analysis of (SPSS) version 20. Furthermore, the measurements for attaining the study objectives and measure the drawn variables have been inferred from the previous studies reviewed in literature review unit. However, for achieving maximum precision, pilot study was conducted to verify the reliability of constructed hypotheses and the matrix of variables. Yet, the main points of methodology adopted in the characteristics of quantitative study have been conversed in this chapter.

CHAPTER 4

Results and Discussion

4.1 Introduction

With multi-variation of methods that have been used, a set of data analysis is designed in this chapter in order to present the results yielded. This chapter then deals with the dataset obtained by a questionnaire.

The construction of this chapter is aimed basically to (1) verify the structural model of this study and, (2) examine the fit goodness in all dimensions of the study model; descript the different characteristics of potters' profile, (3) identify the significant differences among potters' groupsin terms of firstly marital status and gender; and then with regards to ethnicity, career affiliation, and regional differences,which these all examine with the types and techniques of pottery.This goal might be achieved by using two types of test in SPSS (T-test and One-way ANOVA), (4) explore the correlation between the types and techniques of pottery with the influential factors are thought to affect pottery (e.g., Market status, Government's initiative, Ritual factor, and Social factor, Ecological factor, Economic factor). Accordingly, this chapter is constructed upon a certain structure: Data Screening and Cleaning, Response rate, Normality test, Respondents profiles, and finally Empirical statistical descriptive of variables.

In conclusion, this chapter being conducted based on two types of test which run by using SPSS for descriptive analysis and SmartPLS for exploratory analysis. Yet, SPSS is used to set with a specific research questions that are organized for comparative analysis. Using SPSS aims to explore the discrimination among different potters' groups in terms of gender, marital status, races, career affiliation, and regional differences. While, Smart PLS was chosen to predicate the effective dimensions of five

factors (e.g., Market Status, Government's initiative, Economic Factor, Ritual, Ecological, and Social Factor) and their effect on pottery production along with potters. Eventually, this chapter is devoted to develop the set of research's hypotheses.

4.2 Data Screening and Cleaning

In the process of manipulating data, the first concerned step may puzzle any researcher is the necessity need to screen and/or clean the data from any missing data. Existing miss-up in the data entry may radically mean yielding imprecise analysis. As Pallant (2010) mentioned "as errors are easy to make and not always easy to spot, particularly if codes entered are within range but incorrect, as can happen with long sequences." (p. 11). Additionally, Hair *et al.* (2006) emphasizes the importance of conducting this step among the initial steps of data processing. Therefore, screening data is an essential process when deal particularly with human beings.

In the process of clearing data, there are several approaches for handling the data, which exclusion the items or the cases appearing with error in entry data is one of methods. Exclusion method is directed to exclude the only cases cannot involve with the other items of data.

Hence, in current study, the likertislabeled as following (1=Strongly Disagree, 2=Disagree, 3=Undecided, 4=Strongly Agree, 5=Agree) (1=Very Much, 2=Much, 3=Not at All, 4=little, 5=Very little). Thus, the data in this section has undergone to the cleaning process in order to decide in the end of the process whether the data entered is accomplished with the likert (ranging from 1 to 5) for the whole 500 cases that have been examined.

Further, in initial analysis of demographic data, the step of screening data has been conducted in a proper way and all entries data have been checked to be in order. However, items that was reversely recoded (e.g., Platters, Mugs, Bowls, Pitcher, Urns,

Pots, Vessel, Vases, House Furniture in types of products; in addition to, race and education in the demographical information), were typically reverse coded during processing the data. Thus, the process of reversing items was performed (Hair *et al*., 2006). With precise check-out dataset, to verify that there is no missing data was found in whole items of dataset.

4.3 Response Rate

In the activity of collecting data, Seven hundred sheets have been distributed over several groups of categorized potters scattered between craft complex centers, craft manufacturers, and household potters and individual shops for selling pottery. Hence, Nine Craft Complex Centers have been categorized as governmental sector, which is assigned for craft products generally. These are namely (one center in Johor Bharu, two centers in Perak located in kualakangsar, and PulauTiga, one Handicraft Cooperation Center in Penang, one in lingkawi (Kedah), one in Melaka, one in Negeri Sembilan, and two in Kuala Lumpur). Fourteen ceramic manufacturers fall under the path of semi-governmental sector that were collected from selected estates of Malay Peninsula; while, more than eighty household potters with individual shops have been pointed in the path of private sector in the same selected estates of Malay Peninsula.

Worthy to mention that, from the 700 hundred sheets questionnaires that were distributed over the categorical types of respondents there were only 650 sheets returned and gathered after distribution. However, after precise-check into the returned sheets in order to determine the most accurate responses to be processed, there were only 500 sheets remained as a satisfied responses for analysis. The rejected sheets after the checking process were ignorable sheets due to these had not usable information (See table 4.1).

Table 4.1: Shows the Rate of Responses with the Percentage of Each Type of Sample-Size.

No.	Locations for Distribution questionnaire	Number of questionnaires delivery	Number of Respondents	Percentage
1	Craft Complex Centre (Johor)	50	40	20
2	Craft Complex Centre -2 regions Kuala kangsar&PulauTiga-(Perak)	50	45	10
3	Handicraft Cooperation Centre (Penang)	50	40	20
4	Craft Complex Centre (lingkawi -Kedah)	50	38	24
5	Craft Complex Centre (Melaka)	50	40	20
6	Craft Complex Centre (Negeri Sembilan)	50	40	20
7	Craft Complex Centre (Kuala Lumpur)	50	40	20
8	Sun Ceramic SdnBhd	15	10	33.3
9	Bavaria Glazed Ceramic	20	12	40
10	Ceramic Horoscope coin Bank Medium Kit	20	10	50
11	Ceramic Product	20	10	50
12	Ceramic Mug for Printable	20	10	50
14	Airtight Ceramic Mug	20	10	50
15	Ceramic Mug	20	10	50
16	Lucky Cat Ceramic Mug	20	10	50
17	Ceramic Craft	20	10	50
18	Ceramic Mug Printing	20	10	50
19	Ceramic Vip Gifts	20	10	50
20	Ceramic Stainless Steel Mug	20	10	50
21	Ceramic Plate	20	10	50
22	Imitation ceramic plate mould	20	10	50
23	Household and Individual Shops	80	75	6.25
	TOTAL	**705**	**500**	

4.4 Demographic Profiles of Respondents

This section addresses the demographic characteristics of respondents in order to present illustrative picture of the characteristics that distinguish potters from each other; and might play a role in influencing the artistic production of pottery. In this section, the first objective of current study is processed in order to demonstrate the significant variation in demographic potters' profile.

4.4.1 The Distribution of Age in the Potters' Profile

Potters' age in the potters' profile has been classified to three categories: the potters who ranging between 18-25; those who are in middle age 26-40; and the potters are in the last age 40.

According to the results shown we may claim that majority of potters are in the middle age 26-40. This group of potters achieved high percentage score 81.2% and 406 of frequency; however those who are in the 40 years old come in the second stage of importance in which they achieved 10.8% and frequency of 54; then lastly are the young potters who are ranging in age group of around 18-25 years; yet those potters scored lowest rank of percentage 8.0% and also low score of frequency 40.

Nonetheless, as the results shown, we should be able to argue that the professionalism in the process of pottery production differentiates according to the diversity of age. Here we can predicate the same results based on the evidences given by (Curtis, 1962; Groves, 1960) who stress that, the differences of potters' skills emerge in particular age groups of potters. A group of scholars (Specht, 1972; Waane, 1977; Weigand, 1969) demonstrate the rationale of diversifying potters' skills that coincides to the length of experience gained. In other depiction, potters who are ranged in the middle age (26-40 years old) would be considered as the most simulating group for multiplying the pottery production. In contrast, (Thompson, 1958) asserts that, logically the age

group of old potters (above 40 years old) in the conventional societies is less importance than other productive communities due to types of vessel that were made by old potters cannot always execute as it was in their youth phase. Above all, the presented argument often met with our interpretation of that, the middle level group age of potters is likely the fundamental bases which used to build upon it all production forecasts. (See figure 4.1, and look at table C.1in the appendix C).

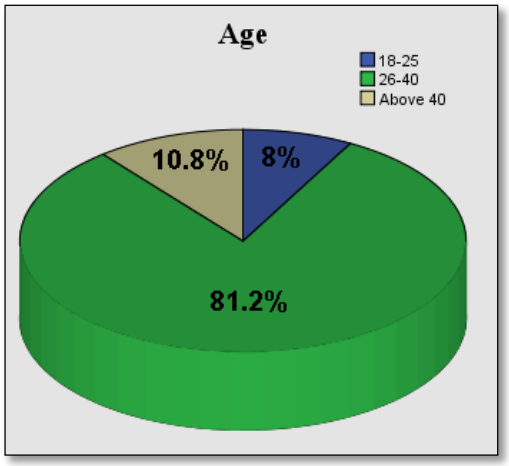

Figure 4.1: The Percentage of Age in the Potters' Profile.

4.4.2 The Distribution of Gender in the Potters' Profile

According to the percentage shown in the figure 3.2, the ratio of potters is categorized to two potters groups: male and female. Moreover, the percentage of male potters, as graph shows, is approximately 55.8%; while, female potters are shown in a percentage of 44.2%.

According to the above, we would go over the main points of percentage shown to declare predictably that, the few differences of percentage between men and women indicates that the role of men and women in most Malay Peninsula states is almost equal. Contrary, Hibbert (1998) in his research that was conducted for Mexico pottery presents a different insight in such issue. He stresses based on series of clues that some roles are restricted for men physically. For instancein his view of point, wheel, is the technique that invented to be compatible with men potters mostly. And from other

viewpoint, he suggests that religious pottery was in most cases produced by men potters. Moreover, Foster (1959) denotes his belief of that, hand-made pottery is only work sets for women potters, which this phenomenon is observed clearly in some primitive societies.

Here, the results show in reverse to whatever been argued that man and woman alternatively used to exchange the roles between each other. Thus, the kind of gender which plays prevailing role in a family depends on the potters' family situation. In other meaning, as Kramer (1979) explains that, in some societies women hold a salient role in making pottery, though men are also knowledgeable about the process. However, in some other societies where women are prohibited to touch the wheel she would still able to participate in other stages of the production process (See figure 4.2 and look at table C.2in the appendix C).

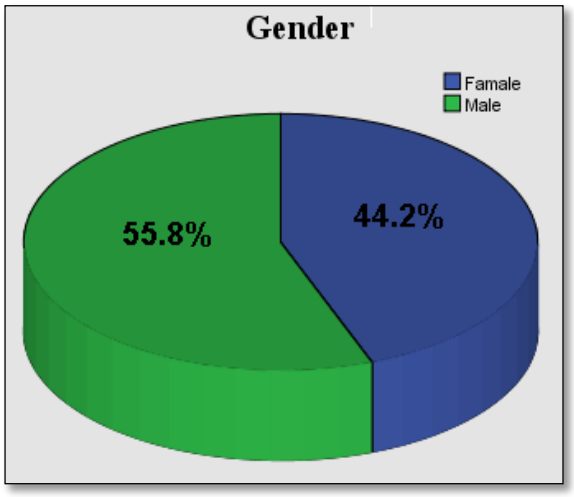

Figure 4.2: The Percentage of Gender in the Potters' Profile.

4.4.3 The Distribution of Race in the Potters' Profile

The race property of potters' profile, as it is shown in the graph below; potters are classified to three racial groups: Malay, Chinese, and Indian. Accordingly, Malay potters achieved in current study the percentage of 56.4%, which is shown to be the biggest number of potters are involving in the pottery provision. However, Chinese

potters are in the percentage of 31.8%, which are considered in the second stage of active potters. Indian potters have a low number of percentages in compare with Malay and Chinese which is 11.8%. Further, the frequency of Malay Potters is 282 that originally is a multiple number regarding to the other cases such as Chinese and Indian. Thus, Chinese potters have a less frequency number of 195 in compare to Malay, while, Indian potters have a lower frequency number of 59 in compare to both Malay and Chinese.

The issue of diversity in the culture has often demonstrated by the terminology of ethnicity. According to different views of authors in ethnographical studies (Handler, 1963; Hegmon *et al.*, 2000; Jeffcutt & Pratt, 2002) and based on the results, it can claim that the pottery production diversifies according to the differentiation of potters' ethnicity. Respectively, the concept of ethnicity in the production issues appeared habitually in line with culture concept. With consistence to the further argument, Fleming (1974) emphasizes by the following statement on that "if a basic wonder about man is his capacity for building culture, certainly the next wonder is his astounding capacity for making things as part of his culture" (p. 153), and in more precise confirmatory statement of the role of culture and the diversification of ethnicity on artifact products he states "The artifacts made and used by a people are not only a basic expression of that people; they are, like culture itself, a necessary means of man's self-fulfillment" (p. 153). Accordingly, Fleming declaration meets with our assumption of that Malay people, based on what results have been shown, are the most concerned race assist to remain the heritage concepts in their products in compare to other races in Malay Peninsula (See figure 4.3 and look at table C.3 in the appendix C).

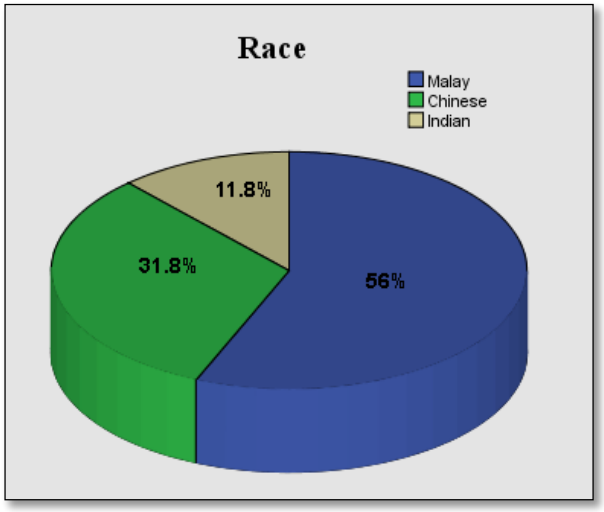

Figure 4.3: The Percentage of Race in the Potters' Profile.

4.4.4 The Distribution of the Marital Status in the Potters' Profile

Marital Status of potters is divided into two groups: single potters and married potters. Thus, the study shows that, the proportion of married-potters who preoccupy the profession of pottery is higher than the non-married potters. As it is appeared in the graph, the percentage of married-potters is 88.0%. However, single-potters comprised 12.0%, according to the percentages shown, the rationale behind the rate of activation in the married-potters' profession reasonably turns to that, pottery profession is scored highly by married-potters for a set of utilitarian purposes such as securing the daily-life requirements, and the responsibility of caring the potters' family. This gives us constant impression that pottery profession is continuity dominated by financial requirements than creative and/or esthetic needs. (Refer to Chapter 2 "ecological factors and pottery production"). However such sense is not being observed in the group of single potters.

In another interpretation, which inspired by (Freed & Freed, 1963), we would argue that, the married potters are more active in the field of pottery due to pottery production in most cases is established by all members of potters' family (wife, sons). In the rural village the role of wife and sons appear to assemblage the clay from scattered spots and gathering the dried dung used for fuel in the traditional kilns. In

contrary, in the urban regions women particularly will hold various roles in the pottery production including contributing in hand-made types of pottery. Thus, joint and mutual roles between potters and their family assist potters for multiplying their outputs. Likely, the single potters will not be motivated to contribute in all parts of the production process (See figure 4.4 and look at table C.4 in the appendix C).

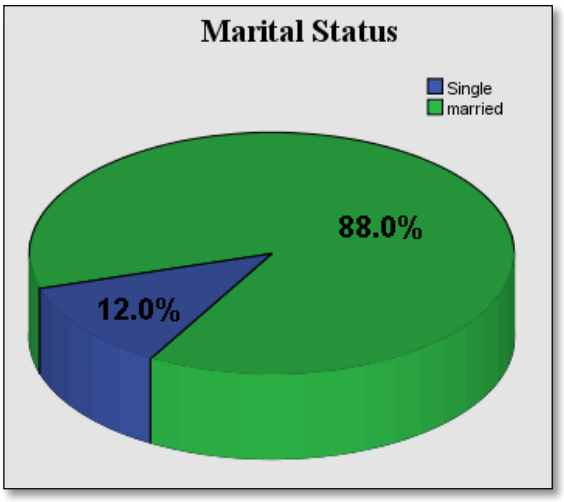

Figure 4.4: The Percentage of Marital Status in the Potters' Profile.

4.4.5 The Distribution of Education in the Potters' Profile

As it was appeared in the graph, potters are divided into four groups: Below high school, Diploma, Bachelor, and Master degree. So, accordingly, most potters fell under high percentage 76.2% are those who hold Diploma degree; comes in the second category the potters who possess a low level of education-below high school-14.8 %. Other group appears in third level are those who hold Bachelor degree 8.8%. However, the last categorical group is the potters who are in the high degree of education (Master) 2%. Therefore, the master potters are shown as fewer potters involving in pottery profession. It might be attributed to the fact that, there is extrusive relationship between the level of education and the potters' mental orientation. In other meaning, when the educational level of potters increases they will not be interested to maintain the pottery profession as the main source for life requirements; whilst, when potters are in low level

of education, they will get dependence to the pottery profession and keep it as fundamental source for enhance their financial position. Porcelain is indeed traded and easy to get, as its material is served by governmental supported sectors unprofitably. Thus, most of less-educated potters are intended to procure it as a secure-source for life requirements (Freed & Freed, 1963).

Additionally, it is obvious that the less-educated persons in the society the more interested in the porcelain production and other similar industries which require physical efforts regularly. Yet, this reflective interaction stresses the linkage between pottery and the education levels achieved (See figure 4.5 and look at table C.5 in the appendix C).

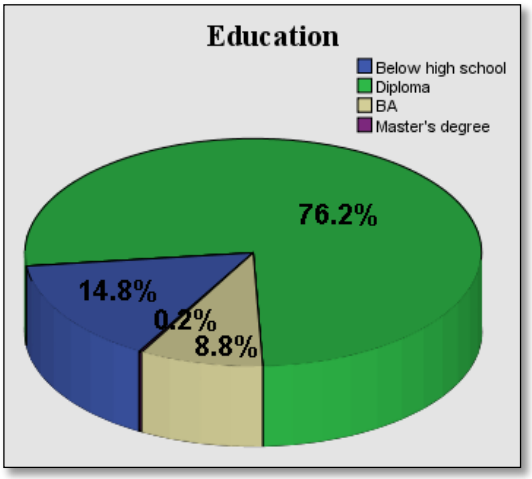

Figure 4.5: The Percentage of Education in the Potters' Profile.

4.4.6 The Distribution of the Type of Work in the Potters' Profile

The chart in this section explains two types of work: governmental and private sectors. Governmental sector contains all utilities of handicraft/pottery production that are supported by governmental-annual plans and programs. Accordingly, this kind of sector shows in current study a high percentage 56.4% than other sectors. However, the other type, which is private sector, is indeed comprised only the score of 43.6%. Private

sector comprises all the private utilities are related to the handicraft and/or pottery industry in particular (See figure 4.6 and look at table C.6 in the appendix C)

A comparison between the intergovernmental and private sectors, as the results show, would give an overall insight of that intergovernmental sector is the more body can attract potters, due to the services and facilities are offered by the government. This confirms the belief that, the artistic heritage is more desired for retaining its values by the Malaysian elites in the society.

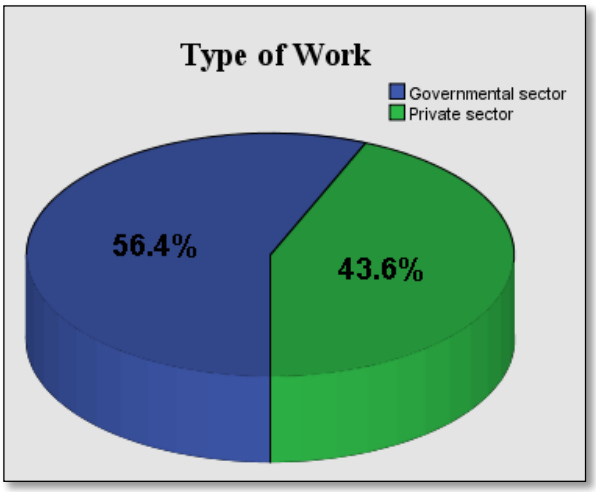

Figure 4.6: The Percentage of Type of Work in the Potters' Profile.

4.4.7 The Distribution of Company Belonging in the Potters' Profile

The three categories: craft complex, craft factories/manufacturers, and private companies/craft shops are the main boundaries that are used here to determine the occupational identity of potters respectively.

Craft complex has been marked here the prominent aggregation of handicraft used to represent the most governmental sector involving in pottery industry. Hence, such remarkable governmental sector, as it is shown, hold a big number of percentage 49.2% in compare to other sectors.

The second cluster categories, is the craft factories/manufacturers. Craft manufacturers are recognized the most active utilities among semi-governmental sectors of pottery industry. Craft manufacturers occupy the second stage in the importance after

craft complex in according to the percentage appears in the graph 22.4%. Private sectors are identified independently to comprise all pottery shops and other household potter/sellers who are beneath the definition of individual production. This type of sector comprised 28.4%. Respectively, results show that the governmental craft complex centers topped the priority list among other determined sectors. This emphasizes our assumption of that the prominent role of government in enhancement and supporting pottery production caused a considerable number of potters to be motivated to join into the governmental activities and gain financial support. Further, it is observed apparently the significance of government's role through the high demand upon porcelain that was achieved particularly by the Malay potters. Hence, the other interpretation is leading us to the fact that, government and potters are driven with the same goal to remain their cultural heritage which inherited over various ancestries (See figure 4.7 and look at table C.7 in the appendix C).

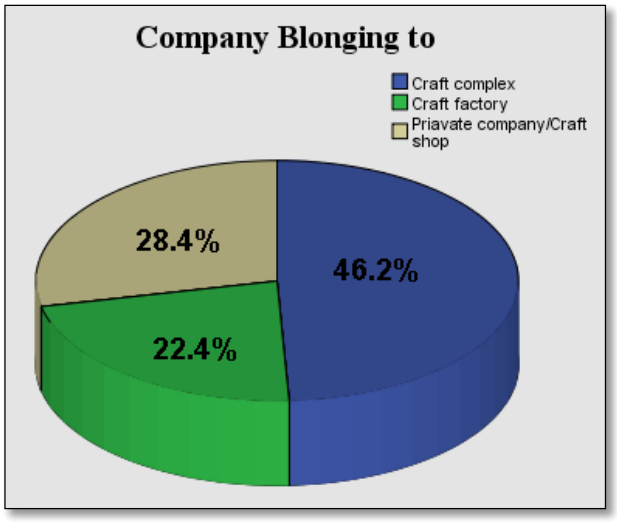

Figure 4.7: The Percentage of Company Belonging to in the Potters' Profile.

4.4.8 The Distribution of Potters According to Residency

With the line of definitions, study shows sequentially a set of states, which have been marked as the following: Perak, Johor, Penang, Kedah, Melaka, Negeri Sembilan, and Kuala Lumpur. Yet, as it is apparently shown that Perak and Johor states occupy the

priority in achieving the high percentage of active potters; Perak scored 23.2%, while the percentage of Johor Bahru is 19.8%. Other states such as Kedah, Penang, Kuala Lumpur, and Melaka came in the second stage of importance according to what it is shown: Kedah (16.4%), Penang (13%), Kuala Lumpur (11.6%), and Melaka (10.2%). Moreover, eventually, Negeri Sembilan occupies the final stage respectively (5.8%) (See figure 4.8 and look at table C.8 in the appendix C).

The importance of Perak among other states indicates the priority of some rural regions in terms of the authentic principle. Therefore, Perak is highly marked as the most state occupied by indigenous potters. Hence, authentic aspect is often associated with the aboriginal potters who mostly live in remote regions such Perak, Penang, Kedah and so on (Esperanza, 2008) (Refer to the chapter one "Brief background of the geographical location").

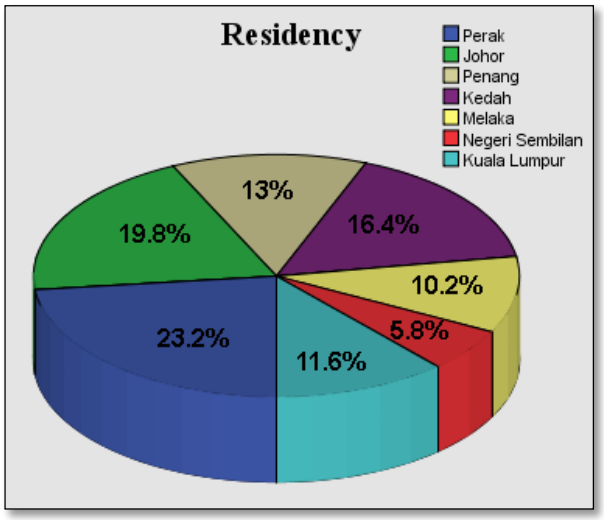

Figure 4.8: The Percentage of Potters in According to States.

4.4.9 The Distribution of Household Income in the Potters' Profile

As we can observe through the chart, the percentages of household income differentiate among the potters' households. However, the average income of potters entirely indicates the percentage of major potters who fall in the amount RM 5000- RM 9999, is approximately 82.6%. In other sense, the other types of potters who gain RM

10.000-24.999 are labelled in a percentage of 9.2%. However, those who gain RM 50.000% as income comprised 8%, while, the less categorical income <RM 5000 has comprised in the demographic results 6.8, and finally the rate of salary RM 25,000-94,999 was comprised 6% (See figure 4.9 and look at table C.9 in the appendix C).

Based on the results observed, we would be able to assert that some of the basic criteria control the percentage of potters' gains that may attribute to the level of education, and the type of work they are belonging to, as well to the time spent with the efforts paid. Other criteria may also count but are not in the concrete stage of importance. Therefore, observably, the educated potters are able to bring considerable luck for catching the opportunities in the various profitable utilities to enhance their living expenses. However, the less educated potters are in limit luck, as they only can join the utilities set with their skills and their mental assimilation, which these are often unprofitable.

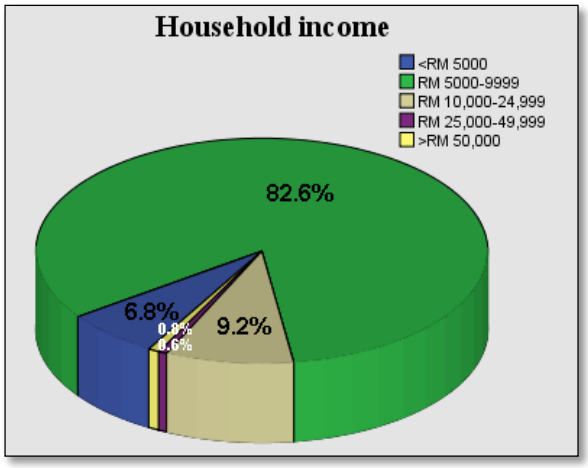

Figure 4.9: The Percentage of Household Income in the Potters' Profile.

Handler (1963) in his explanation has added a new influential criteria enhancing income, which is the natural construction of household. In other sense, potters who are holding a complete household are enable through the principle of collaboration to distribute the roles over all members of family; so, as a result, it would affect increasing the income and reducing the stresses resulted fromthe efforts paid. However, the other

types of potters, who are not holder for a family, often prefer to join a group (see table 4.2 percentage of demographic dimensions with their rate of frequency).

Table 4.2: Percentage of Demographic Dimensions with Their Rate of Frequency.

Demographic Dimension	Items	Frequency	Percentage
Age	18-25	40	8.0
	26-40	406	81.2
	Above 40	54	10.8
Gender	Female	221	44.2
	Male	279	55.8
Race	Malay	282	56.4
	Chinese	159	31.8
	India	59	11.8
Education	Below High School	74	14.8
	Diploma	381	76.2
	BA	44	8.8
	Master Degree	1	0.2
Marital Status	Single	60	12
	Married	440	88
Type of Work	Governmental Sector	282	56.4
	Private Sector	218	43.6
Career Affiliation	Craft Complex	246	49.2
	Craft Factory	112	22.4
	Private (Company/Shops)	142	28.4
Residency	Perak	116	23.2
	Johor	99	19.8
	Penang	65	13
	Kedah	82	16.4
	Melaka	51	10.2
	Negeri Sembilan	29	5.8
	Kuala Lumpur	58	11.6
Household Income	<RM 5000	34	6.8
	RM 5000-9999	413	82.6
	RM 10,000-24,999	46	9.2
	RM 25,000-49,999	3	0.6
	>RM 500,000	4	0.8

4.5 Normality Test: Normal Distribution of Variables

In line with the size of current study's sample, it is presumed that the population of certain sample was distributed normally. Indeed, in the case of having a large rate of

samples (respondents) the normal distribution would be inevitably appearing in a bell-shape for balanced normal curve. Moreover, as it is illustrated previously, the sample size in current study encompassed 500 potters. Having this size has granted this study property of the normal distribution. Yet, it is preferred that before exceeding the normality test of distribution and moving to get precise findings of research questions by estimating the Mean, Standard Deviation, and multivariate statistics, normality of sample size should be tested accurately by different techniques.

Nevertheless, among a variety of techniques utilized to examine the normal distribution, researcher has chosen Histogram method for approving the normality of current data. Despite existence different techniques that can accurately assess the normal distribution in data, but basically the common test of normal distribution can be observed visually through thorough vision estimation for each variable. Hence, current study depends on the range of variables that restrict the input and output of factors affecting the pottery production. (Input factors: economic factor, market status, government's initiative, ecological factor, social factor, and ritual factor); (Output factors: the techniques of pottery products, the types of pottery in the pottery production).

4.6 Empirical Analysis

This part of analysis aims to examine empirically the construct of variables with some selected demographic data such as age, marital status, gender, race, and carrier affiliation. Commonly, the analysis would be shown in this section with concern on the mean, significance values for each variable through statistical way. This section begins along with first research question.

4.7 Research Question One

This section shows the independent variable (gender and marital status) and dependent variable (types and techniques of pottery). In other word, the comparison between groups of female and male, and groups of single and married based on types and techniques of pottery production using T-test technique of analysis, which has been statistically reported to give response and to address the research questions of current study as designed in the following figure 4.10.

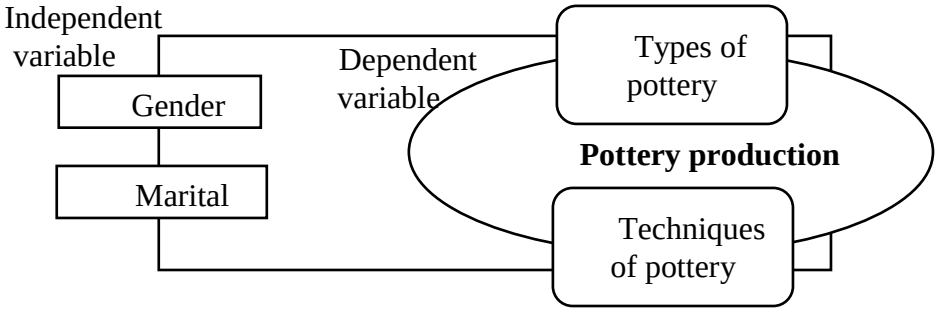

Figure 4.10: The Design of Conceptual Framework, Where the Variables are indicated.

Terminologically, the demographic characteristics of potters, which are selected for forthcoming test, are namely: Gender, and marital status. These subjective characteristics of potters are assumed to affect on types of pottery (i.e., platters, mugs, bowls, pitcher, urns, pots, vessel, vases, and house furniture) (See Figure 4.11a); and the techniques using in pottery production (i.e., hand-built, casting, wheel, coiling, and machine equipments) (See Figure 4.11b).

Figure 4.11a: Types of Pottery are as Follows: a) Platter, b) Mug, c) Blow, d) Pitcher, e) Urn, f) Pot, g) Vessel, h) Vase, and i) House furniture.

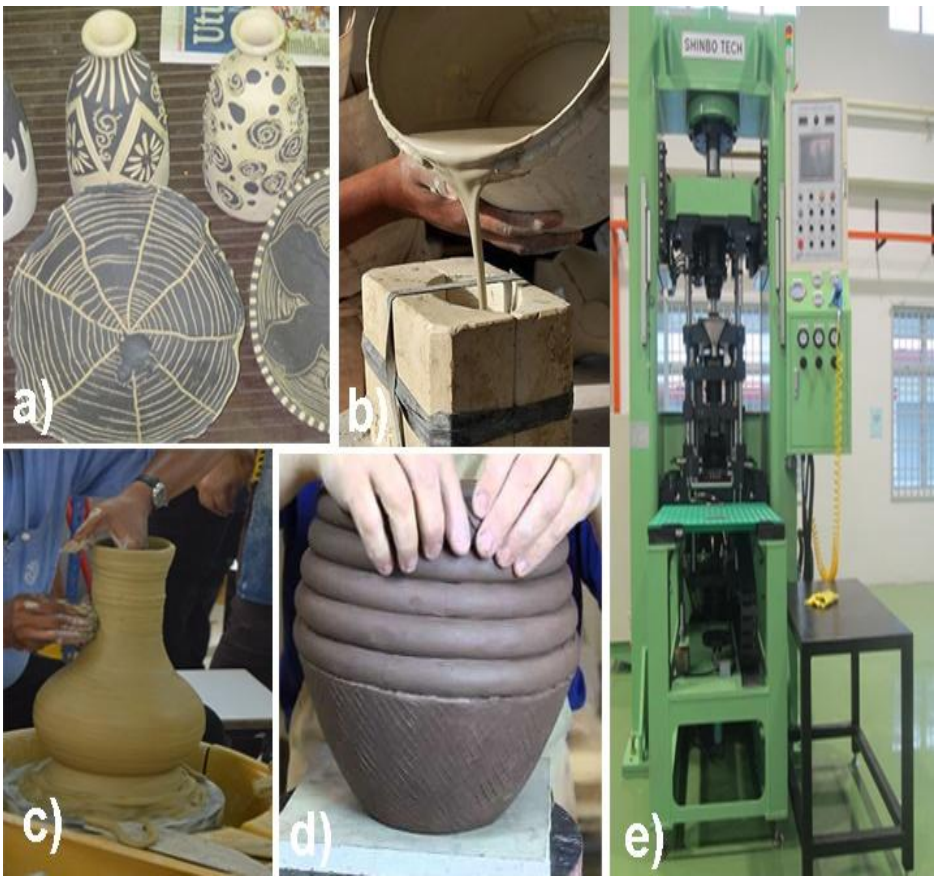

Figure 4.11b: Techniques of Pottery are as Follows: a) Handbuilt, b) Casting, c) Wheel, d) Coiling, e) Machine Equipment.

For the purpose of determine the significant values inthe mean differences observed among the characteristics of gender and marital status when examine them statistically on the types of products and certain techniques of productive performance. Essentially, as it is indispensable to measure a mentioned set of potters' demographic characteristics through the types of products that were mentioned above and the techniques being used by the potters. Therefore, the process of testing these demographic variables goes along the following lines:

4.7.1 The Variances in the Types of Pottery Products Based on Gender Groups

The current test attempts to answer the first question as following "How could the differences among the potters' groups in terms of gender and marital status

influence selected types and techniques used in the pottery?". T-test has been selected to distinguish the following aspects, (1) the gender differences among potters' groups (male and female) influence certain types of pottery (i.e., platters, mugs, bowls, pitcher, urns, pots, vessel, vases, and house furniture). In addition, (2) the affective difference of gender groups (female and male) and its impact on the techniques utilized in pottery production (i.e., hand-built, casting, wheel, coiling, and technique equipment). Nonetheless, the outcomes of this test have been marked either to reject the null hypothesis (H_0) or to support the hypothesis of, "Selected types and techniques of pottery differentiate according to the various categories of gender (female and male) which have an impact on the pottery production".

The mean score of each types of pottery is statistically calculated based on different categories of gender selected here as female and male groups. Here, we have selected nine types of pottery products (i.e., platters, mugs, bowls, pitchers, urns, pots, vessels, vases, and house furniture), which are thought that these types of potteries are indeed influenced by variation of potters groups; either female or male. Therefore, the appropriate test of independent sample is t-test that is selected to distinguish and compare the main scores of the differences between (Female & Male) groups of potters according to the types of pottery displayed sequentially in the table 4.3.

Table 4.3: T.Test Results Used for the Two Groups (Female and Male) and Types of Pottery Products.

				Test for Equality of Means				
Types of pottery	**Gender**	**Mean**	**Std Deviation**	**Sig.**	**Sig.(2-tailed)**	**t. value**	**df**	**Eta sqr.**
Platters	Female	4.1674	0.70326	0.588	0.131	1.513	498	0.0046
	Male	4.0681	0.74839					
Mugs	Female	4.1086	0.75496	0.157	0.630	-0.482	498	0.00047
	Male	4.1434	0.83594					
Bowls	Female	4.0905	0.91996	0.634	0.423	0.802	498	0.0013
	Male	4.0215	0.98161					
Pitcher	Female	3.6244	1.13183	0.570	0.566	0.574	498	0.0007
	Male	3.5663	1.11968					
Urns	Female	2.9910	0.55589	0.000	0.002	-3.159***	490.176	0.02
	Male	3.1828	0.79945					
Pots	Female	3.6878	0.96638	0.493	0.03	2.173	498	0.0009
	Male	3.4982	0.97033					
Vessel	Female	4.0498	1.12906	0.097	0.205	1.270	498	0.003
	Male	3.9176	1.17697					
Vases	Female	4.1855	1.13897	0.992	0.204	1.273	498	0.003
	Male	4.0538	1.15708					
House Furniture	Female	3.29	0.942	0.002	0.001	3.241**	464.545	0.02
	Male	3.01	0.909					

, *, Significant at 5%, and 10% respectively

N1 = 221 numbers of female group, and N2 = 279 numbers of male group in all types of pottery.

Table 4.3 shows that there are no significant variances can be observed in the following kinds of pottery (platters, mugs, bowls, pitchers, pots, vessels, and vases) that have marked respectively in the group of female with the following scores (Platters M=4.16, SD=0.703, *t*(498)=1.513, *P*=0.131; Mugs M=4.10, SD=0.754, *t*(498)=-0.482, *P*=0.63; Bowls M=4.09, SD=0.9199, *t*(498)=0.802, *P*=0.423; Pitchers M=3.62, SD=1.131, *t*(498)=0.574, *P*=0.566; Pots M=3.68, SD=0.966, *t*(498)=2.173, *P*=0.03; Vessels M=4.04, SD=1.129, *t*(498)=1.27, *P*=0.205; Vases M=4.18, SD=1.138, *t*(498)=1.273, *P*=0.204). Same insignificant results are noted in the male scores of (Platters M=4.06, SD=0.748; Mugs M=4.14, SD=0.835; Bowls M=4.02, SD=0.981; Pitchers M=3.56, SD=1.119; Pots M=3.49, SD=0.970; Vessels M=3.91, SD=1.176; Vases M=4.05, SD=1.157).

On other hand, in the same table, it shows significant scores with variation in certain types of pottery for female groups of potters such as urns at (M=2.99, SD=0.556;

t(490.17)=-3.15, *P*=0.002), and house furniture at (M=3.29, SD=.942; *t*(464.54)=3.24, *P*=0.001); and male groups using urns type of pottery (M=3.18, SD=.799), and house furniture type of pottery (M=3.01, SD=.909).

Eta squared is a number of different effect size statistics between female and male groups of potters.

$$Eta\ squared = \frac{t^2}{t^2+(N1-N2-2)} \qquad (1)$$

where, N1= number of female group of potters, N2= number of male group of potters

Cohen (2013) proposed for interpreting the Eta Squared values which are 0.01 equal to small effect, 0.06 equal to moderate effect and 0.14 equal to large effect. For our current table, it shows after applying in equation (1) that in all types of pottery are smaller than 0.01. Thus, the effect size of them are very small as follows (platters=0.004, mugs=0.0004, bowls=0.001, pitchers=0.0007, pots=0.0009, vessel=0.003, and vases=0.003) and in urns and house furniture of 0.02 are small effect. They expressed as a percentage by multiply the values of eta square by 100 in all types, as long as only 0.04, 0.04, 0.01, 0.07, 2, 0.09, 0.03, 0.3, and 2 of the variance for platters, mugs, bowls, pitcher, urns, pots, vessel, vases, house furniture respectively in various types of pottery are clarified by gender.

4.7.2 The Variances in the Techniques of Pottery Production Based on Gender Groups

The permanent techniques of pottery production are used to examine the affect of the mean differentiation of both female and male potters' groups on these techniques of pottery (i.e., Hand-built, casting, wheel, coiling, and machine equipment). Yet, null hypothesis H_0 was formulated underlying the assumption of that, "Selected types and

techniques of pottery are not devirsified based on the various categories of gender (female and male) in the potters' groups".

Table 4.4: T-Test Results Used for the Two Groups (Female And Male) with Techniques of Pottery Production.

		Test for Equality of Mean						
Techniques of pottery	**Gender**	**Mean**	**Std Deviation**	**Sig.**	**Sig.(2-tailed)**	**t-value**	**df**	**Eta Sqr.**
Hand-built	Female	2.57	1.283	0.667	0.157	1.419	498	0.004
	Male	2.41	1.313					
Casting	Female	1.69	1.008	0.139	0.183	-1.335	498	0.0036
	Male	1.81	1.077					
Wheel	Female	2.15	1.204	0.438	0.028	-2.197	498	0.0096
	Male	2.40	1.256					
Coiling	Female	2.70	1.389	0.311	0.147	1.453	498	0.004
	Male	2.52	1.375					
Machine Equipment	Female	1.94	1.405	0.044	0.399	0.844**	449.289	0.0014
	Male	1.84	1.275					

**, Significant at 5% respectively

N1 = 221 numbers of female group, and N2 = 279 numbers of male group in all techniques of pottery.

In table 4.4, the female and male groups, which are involved in the mentioned techniques, are shown insignificant with regards female groups in score of (Handbuilt M=2.57, SD=1.28, *t*(498)=1.419, *P*=0.157; Casting M=1.69, SD=1.01, *t*(498)=-1.335, *P*=0.183; Wheel M=2.15, SD=1.20, *t*(498)=-2.197, *P*=0.028; and Coiling M=2.70, SD=1.38, *t*(498)=1.453, *P*=0.147); and male groups in score of (Handbuilt M=2.41, SD=1.31; Casting M=1.81, SD=1.07; Wheel M=2.40, SD=1.25; and Coiling M=2.52, SD=1.37). However, Report in the table indicates significant value among the groups of female potters using Machine Equipment technique of pottery at (M=1.94, SD=1.40); and the groups of male potters at (M=1.84, SD=1.27; *t*(449.28)=0.844, *P*=0.399).

Eta squared is calculated using equation (1) that all techniques of pottery are smaller than 0.01. Thus, the effect size of them are very small as follows (hand-built=0.004, casting=0.003, wheel=0.009, coiling=0.004, machine equipment=0.001) and expressed as a percentage by multiply the values of eta square by 100 in all techniques; therefore, only 0.4, 0.3, 0.9, 0.4 and 0.1 of the variance for hand-built,

casting, wheel, coiling, machine equipment respectively in selected techniques of pottery are clarified by gender.

4.7.3 The Variances in the Types of Pottery Based on Marital Status Groups

With concluding of normal distribution for each aforementioned variable, the need for distinguishing the homogeneity in the variances between two groups is often taken in account. Thus, measuring the differences between two groups (single and married) in this part, which is concentrated on the variances of mean differences, Standard Deviation (SD), *t*.value, Degree of freedom (df), and P. value shown by levene's test. Likewise, eta squared is tested here to produce an indication of the magnitude of the differences between potters' groups. Eta squared is a tool of effect size technique used to prove that the differences between single and married of groups could not just be occurred by chance. The formula for calculating eta squared is mentioned in equation (1). Further, the significant value reflects the value that is equal or less than <.05; as it is standardized by Pallant (2010), and Pallant and Lae (2002), and Hair *et al.* (2006).Yet, t-test is chosen to calculate statistically the significant values of each type of pottery with accordance to single and married group of potters.

As it is pointed in the table 4.5, the t-test results used for the two groups (single and married) with types of pottery production, the results show insignificant variances among single and married groups of potters, who are interested to produce pottery types of (Platters, Bowls, Pitchers, Urns, Pots, Vessels, Vases, and House Furniture) respectively. Accordingly, single groups of potters in insignificant types of pottery are market as following (Platters M=4.14, SD=0.647, *t*(498)=0.424, *P*=0.67; Bowls M=3.98, SD=0.916, *t*(498)=-0.646, *P*=0.519; Pitchers M=3.47, SD=1.07, *t*(498)=-0.996, *P*=0.32; Urns M=3.00, SD=0.711, *t*(498)=-1.311, *P*=0.19; Pots M=3.69, SD=1.033, *t*(498)=1.124, *P*=0.262; Vessels M=4.09, SD=1.085, *t*(498)=0.95, *P*=0.343; Vases M=4.21, SD=1.062, *t*(498)=0.811, *P*=0.418; and House Furniture M=3.25,

SD=0.968, *t*(498)=1.178, *P*=0.239). Whereas, Married groups of insignificant variation are reported as following scores (Platters M=4.10, SD=0.744; Bowls M=4.06, SD=0.961; Pitchers M=3.61, SD=1.132; Urns M=3.11, SD=0.706; Pots M=3.56, SD=0.960; Vessels M=3.95, SD=1.169; Vases M=4.09, SD=1.165; and House Furniture M=3.11, SD=0.926). Yet, these types failed to support the hypothesis of that, "Selected types and techniques of pottery vary significantly according to different categories of marital status (single and married) which influence the pottery production".

However, there is apparent significant variances among single groups of potters that are involved in the pottery type of mugs at (M=4.05, SD=0.764; *t*(107.23)=-0.926, *P*=0.357); as well, there has been noticed a significant variance among married groups in the pottery type of mugs at (M=4.14, SD=0.807). Eta squared is calculated using equation (1), then all types of pottery are smaller than 0.01. Therefore, the effect size of single and married groups in term of types of pottery are very small as following (platters=0.0004, mugs=0.002, bowls=0.0008, pitcher=0.002, urns=0.0034, pots=0.0025, vessel=0.0013, and house furniture=0.0027) and then expressed as a percentage by multiply every value of eta squares by 100 of types of pottery. Thus, only 0.04, 0.2, 0.08, 0.2, 0.34, 0.25, 0.13 and 0.27 respectively of the variance in types of pottery production are clarified by marital status. In conclusion, the type of Mugs in pottery production is the only type highlights the variances among single and married groups of potters significantly.

Table 4.5: T. Test Results Used for the Two Groups (Single and Married) with Types of Pottery Production.

				Test for Equality of Variances				
Types of pottery	**Marital Status**	**Mean**	**Std Deviation**	**Sig.**	**Sig.(2-tailed)**	**t. value**	**df**	**Eta Sqr.**
Platters	Single	4.1447	0.64713	0.294	0.67	0.424	498	0.0004
	Married	4.1061	0.74412					
Mugs	Single	4.0526	0.76411	0.030	0.357	-0.926**	107.232	0.002
	Married	4.1415	0.80705					
Bowls	Single	3.9868	0.91642	0.157	0.519	-0.646	498	0.0008
	Married	4.0637	0.96178					
Pitcher	Single	3.4737	1.07671	0.508	0.32	-0.996	498	0.002
	Married	3.6132	1.13255					
Urns	Single	3.0000	0.71181	0.478	0.19	-1.311	498	0.0034
	Married	3.1156	0.70683					
Pots	Single	3.6974	1.03305	0.536	0.262	1.124	498	0.0025
	Married	3.5613	0.96070					
Vessel	Single	4.0921	1.08539	0.081	0.343	0.950	498	0.002
	Married	3.9552	1.16909					
Vases	Single	4.2105	1.06227	0.159	0.418	0.811	498	0.0013
	Married	4.0943	1.16512					
House	Single	3.25	0.968	0.132	0.239	1.178	498	0.0027
Furniture	Married	3.11	0.926					

**, Significant at 5% respectively

N1 = 76 numbers of single group and N2 = 424 numbers of married group in all types of pottery.

4.7.4 The Variances in Techniques of Pottery Products Based on Marital Status Groups

This part deals with variety of pottery techniques such as Hand-built, casting, wheel, coiling, and machine equipment in different values reflecting the significant or none significant cases based on the marital status of single and married groups. Thus, the values of significant variances solely have the strength to support the hypothesis of "Selected types and techniques of pottery vary significantly according to different categories of marital status (single and married) which influence the pottery production". Table 4.6 presents insignificant value among the groups of single potters using the technique of Machine equipment at (M=1.87, SD=1.41; $t(498)=-0.110$, $P=0.912$). Likewise, insignificant value of married groups of potters using the technique of machine equipment at (M=1.89, SD=1.32). Accordingly, the equality noticed in the mean groups of single and married using machine equipment technique has failed to support the hypothesis in the section.

From other side, table 4.6 reports significant variances among the groups of single using the following techniques of pottery (Handbuilt M=2.36, SD=1.14, *t*(114.74)=-1.02, *P*=0.307; Casting M=1.47, SD=0.824; *t*(125.72)=-3.10, *P*=.002; Wheel M=1.95, SD=1.11; *t*(111.34)=-2.84, *P*=0.005; and Coiling M=2.47, SD= 1.22; *t*(113.52)=-0.922, *P*=0.359). Likewise, married groups which are pointed significantly in the following techniques of pottery (Handbuilt M=2.50, SD=1.32; Casting M=1.81, SD=1.07; Wheel M=2.35, SD=1.25; and Coiling M=2.62, SD=1.40). As a result, these techniques generally reported significantly to support the hypothesis and reject the null hypothesis.

Table 4.6 is also showed the results of calculating Eta squared using equation (1), in handbuilt=0.002, coiling=0.002 and machine equipment=0.00002 of types of pottery have very small effect size since it is smaller than 0.01 (Cohen, 2013) for the casting=0.02 and wheel=0.016 of pottery types have small effect size in the groups of single and married. By multiplying every value of eta squared by 100, only 0.2, 2, 1.6, 0.2and 0.002 of variance in handbuilt, casting, wheel, coiling and machine equipment respectively are clarified by marital status.

Table 4.6: T. Test Results Used for the Two Groups (Single and Married) with the Techniques of Pottery Production.

				Test for Equality of Mean				
Techniques of pottery	**Marital Status**	**Mean**	**Std Deviation**	**Sig.**	**Sig.(2-tailed)**	**t. value**	**df**	**Eta sqr.**
Hand-built	Single	2.36	1.140	0.000	0.307	-1.025***	114.747	0.002
	Married	2.50	1.328					
Casting	Single	1.47	0.824	0.000	0.002	-3.104***	125.720	0.02
	Married	1.81	1.076					
Wheel	Single	1.95	1.118	0.021	0.005	-.2.847**	111.348	0.016
	Married	2.35	1.250					
Coiling	Single	2.47	1.227	0.001	0.359	-0.922***	113.524	0.002
	Married	2.62	1.409					
Machine equipment	Single	1.87	1.417	0.345	0.912	-0.110	498	0.00002
	Married	1.89	1.320					

,* Significant at 5%, 10% respectively

N1 = 76 numbers of single group and N2 = 424 number of married group in all techniques of pottery.

4.8 Research Question Two

4.8.1 The Impact of Age Differences among Potters' Groups on Selected Types of Pottery

The assumption derived from the question three, [How could the differences among the potters' groups in terms of age, race, career affiliation, and regional differences affect selected types and techniques used in pottery?], has been designed to support the hypothesis of that, "The variances among different groups of potters in terms of age might stimulate diversifying types and techniques of pottery production".

Using one-way between-groups analysis of variance is appropriate selection in order to reveal the impact of age categories among potters (18-25, 26-40, and above 40 years old) on selected types of pottery (i.e., Platters, Mugs, Bowls, Pitcher, Urns, Pots, Vessels, Vases, House Furniture). Likewise, the test of one-way between-groups analysis of variance conducted to measure the impact of potters' age groups on the mentioned types of pottery. Furthermore, one-way between-groups of variances with ANOVA & post-hoc test are preferable due to it would enable us to compare between potters' age levels and selected techniques of pottery production. Yet, the rational of using this test is to explain statistically the actual difference in the mean scores between the levels of independent variable and continues of dependent variable.

In table 4.7, there is a statistically significant variances at the value of $P<.05$ among three levels of potters' age that involve particularly in following types of pottery (Platters, Mugs, Bowls, Pitcher, Urns, and Pots) using ANOVOA test. Based on that, three groups of potters' age vary significantly at the significant value of [Platters $F(2, 497)=5.544$, $P=0.004$; Mugs $F(2, 497)=13.63$, $P=0.000$; Bowls $F(2, 497)=5.905$, $P=0.003$; Pitchers $F(2, 497)=4.298$, $P=0.014$; Urns $F(2, 497)=3.581$, $P=0.029$; and Pots $F(2, 497)=3.099$, $P=0.046$] respectively. However, the statistic scores in the types of

platter, mugs, bowls, pitchers, urns, and pots indicate adequately significant values, but the actual variances in mean scores between three groups of potters' age involving all mentioned types are approximately small.

Using this equation (2) to calculate the effect size of the test results

$$Eta\ squared = \frac{Sum\ of\ squares\ between\ groups}{Total\ sum\ of\ squares} \qquad (2)$$

The effect size calculating by using Eta Squared equation (2) is respectively as following (Platter 0.02; Mugs 0.05; bowls 0.02; Pitchers 0.02; Urns 0.01; and Pots 0.01).

The test of Post-hoc comparisons conducted by Tukey HSD test points in the table 4.7 that, the mean scores for above 40 age group of potters (M=2.24, SD=0.923) in platters type shows significant variance from the 26-40 group (M=1.83, SD=0.72). While, groups of 18-25 (M=2, SD=0.617) and above 40 (M=2.24, SD=0.923) have no variances significant observed from 26-40 (M=1.83, SSD=0.72), and 18-25 (M=2, SD=0.617) respectively.

Mugs types of pottery indicate that, the mean score for the above 40 age group (M=2.5, SD=1.052) is significant variances detected from the groups of 18-25 (M=2, SD=0.816) and 26-40 (M=1.8, SD=0.749) respectively, however the 18-25 age group (M=2, SD=0.816) has insignificant variance from the 26-40 age group (M=1.8, SD=0.749). Likewise, in Bowl types of pottery, group of above 40 age (M=2.44, SD=1.078) from the 26-40 group (M=1.89, SD=0.957) is the only group varies significantly and the 18-25 and above 40 groups have no significant observed from the 26-40 and 18-25 groups respectively. Again, Pitcher type of pottery, the 18-25 group (M=2.72, SD=1.133) shows variance significant from 26-40 group (M=2.34, SD=1.105), however non-significant of 18-25 group (M=2.72, 1.133) from above 40 group (M=2.68, SD=1.224) and above 40 group from 26-40. Lastly, Urn types of pottery indicate that, potters categorised in 18-25 group (M=3.05, SD=0.844) vary

significantly from above 40 group (M=2.65, SD=0.884) than other groups of insignificant for the 18-25 group (M=3.05, SD=0.0844) from 26-40 (M=2.9, SD=0.663). As well, above 40 group (M=2.65, SD=0.884) from the 26-40 group (M=2.9, SD=0.663). There is a significant in pots types of pottery; however, it is not shown the significant in the age groups due to the smallest variance among them. On the other hand, the levels of potter's age in the following types of pottery (Vessels *P*=0.482, Vases *P*=0.087, and House Furniture *P*=0.809) do not indicate statistically significant values of variation, as are marked greater than P<.05.

Table 4.7: ANOVA & Post-Hoc Tests Used in Variation in Age Groups on Types of Pottery.

				ANOVA test				Post-hoc test	
Types of pottery	**Ages**	**Mean**	**SD**		**Sum of Sqr.**	**F**	**Sig.**	**(I) AGE**	**(J) AGE**
Platters	18-25	2.00	0.617	Between Groups	5.799	5.544	0.004	18-25	26-40
	26-40	1.83	0.72	Within Groups	259.93			Above 40	18-25
	Above 40	2.24	0.923						26-40*
	Total	1.89	0.73	Total	265.73				
Mugs	18-25	2.00	0.816	Between Groups	16.629	13.63	0.000	18-25	26-40
	26-40	1.80	0.749	Within Groups	303.18			Above 40	18-25*
	Above 40	2.50	1.052						26-40*
	Total	1.87	0.801	Total	319.81				
Bowls	18-25	2.06	0.957	Between Groups	10.553	5.91	0.003	18-25	26-40
	26-40	1.89	0.932	Within Groups	444.09			Above 40	18-25
	Above 40	2.44	1.078						26-40*
	Total	1.95	0.955	Total	454.65				
Pitcher	18-25	2.72	1.133	Between Groups	10.73	4.298	0.014	18-25	26-40*
	26-40	2.34	1.105	Within Groups	620.04				Above 40
	Above 40	2.68	1.224					Above 40	26-40
	Total	2.41	1.124	Total	630.77				

Table 4.7, continued

Types of pottery	Ages	Mean	SD		Sum of Sqr.	F	Sig.	(I) AGE	(J) AGE
Urns	18-25	3.05	0.844	Between Groups	3.554	3.581	0.029	18-25	26-40
	26-40	2.90	0.663	Within Groups	246.64				Above 40*
	Above 40	2.65	0.884					26-40	Above 40
	Total	2.90	0.708	Total	250.20				
Pots	18-25	2.53	0.925	Between Groups	5.809	3.099	0.046	18-25	26-40
	26-40	2.37	0.971	Within Groups	465.83			Above 40	18-25
	Above 40	2.76	1.017						26-40
	Total	2.42	0.972	Total	471.64				
Vessel	18-25	1.89	0.978	Between Groups	1.957	0.730	0.482	26-40	18-25
	26-40	2.03	1.189	Within Groups	665.76			Above 40	18-25
	Above 40	2.18	1.086						26-40
	Total	2.02	1.157	Total	667.71				
Vases	18-25	1.67	0.909	Between Groups	6.448	2.453	0.087	26-40	18-25
	26-40	1.90	1.179	Within Groups	653.28			Above 40	18-25
	Above 40	2.21	1.149						26-40
	Total	1.89	1.150	Total	659.73				
House Furniture	18-25	3.20	0.876	Between Groups	0.371	0.212	0.809	18-25	26-40
	26-40	3.12	0.959	Within Groups					Above 40
	Above 40	3.15	0.702		433.65			Above 40	26-40
	Total	3.13	0.933	Total	434.02				

*Significant

df (Between groups)= 2, df(Within groups)=497 and Total =499 for every types of pottery.

4.8.2 The Impact of Age Differences among Potters' Groups on Selected Techniques of Pottery

The results are processed in order to identify the variances between age groups of potters [group 1 (18-25); group 2 (26-40); and group 3 (above 40)], and techniques used in pottery production (i.e., Handbuilt, Casting, Wheel, Coiling, and Machine Equipment). Yet, the test of one-way ANOVA between-groups is set to either support

or reject the hypothesis of "The variances among different groups of potters in terms of age might stimulate diversifying types and techniques of pottery production".

Table 4.8 shows that, there are not statistical significant among three groups of potters using the techniques of handbuilt and coiling in their products. Insignificantly scores shown in handbuilt and coiling techniques are greater than P=<.05. However, there are statistically significant shown in potters' age groups using frequently the following techniques (Casting $F(2, 497)=4.54$, $P=0.01$; Wheel $F(2, 497)=9.71$, $P=0.000$; and Machine Equipment $F(2, 497)=7.18$, $P=0.001$). The scores of effect size that follows Eta Squared formula in equation (1) show very small effect in variances among three levels of potters' age groups using the techniques of casting, wheel, and machine equipment that are generally shown small effect size at (Casting Eta Squared=0.02; Wheel=0.04; and Machine Equipment=0.03). The standard of Eta Squared values are marked following Cohen classification (2013) 0.01 is considered as small effect, 0.06 as a medium effect and 0.14 as a large effect.

Post-hoc comparisons test conducting by Tukey HSD test indicates that, the main scores in the age level groups of potters using Casting technique, the above 40 group (M=2.09, SD=1.026) indicates actual significant variance for solely from the 18-25 group (M=1.45, SD=0.872); whereas the groups of 26-40 (M=1.78, SD=1.066) and above 40 (M=2.09, SD=1.026) have no significant noticed from the groups of 18-25 and 26-40 respectively. In Wheel technique, actual variation is shown for the groups of 26-40 (M=2.34, SD=1.248) and above 40 (M=2.74, SD=1.31) from the group of 18-25 (M=1.72, SD=0.934). Again, for the above 40 group from 18-25 age group is higher variance different among others; however, the above 40 group shows non-significant variance from the 26-40 group. Again, Machine Equipment technique, the above 40 group (M=2.56, SD=1.561) points significant variance from the groups of 18-25 (M=1.5, SD=1.084) and 26-40 (M=1.89, SD=1.329). On other hand, non-significant

variation appeared for group of 26-40 from the 18-25 age group. Additionally, the level groups of age in last two techniques–Machine Equipment and Casting-differ in small variation value of mean scores.

Table 4.8: ANOVA & Post-Hoc Tests Used in Variation in Age Groups on Techniques of Pottery.

				ANOVA test				Post-hoc test	
Techniques of pottery	**Ages**	**Mean**	**SD**		**Sum of Sqr.**	**F**	**Sig.**	**(I) AGE**	**(J) AGE**
Handbuilt	18-25	3.58	1.124	Between Groups	2.151	0.634	0.531	18-25	26-40
	26-40	3.49	1.329	Within Groups	842.68			Above 40	18-25
	Above 40	3.74	1.286						26-40
	Total	3.52	1.301	Total	844.84				
Casting	18-25	1.45	0.872	Between Groups	9.827	4.540	0.011	26-40	18-25
	26-40	1.78	1.066	Within Groups	537.89			Above 40	18-25*
	Above 40	2.09	1.026						26-40
	Total	1.76	1.048	Total	547.72				
Wheel	18-25	1.72	0.934	Between Groups	28.77	9.711	0.000	26-40	18-25*
	26-40	2.34	1.248	Within Groups	736.18			Above 40	18-25*
	Above 40	2.74	1.310						26-40
	Total	2.29	1.238	Total	764.95				
Coiling	18-25	3.64	1.213	Between Groups	7.022	1.842	0.160	18-25	26-40
	26-40	3.39	1.405	Within Groups	947.37				Above 40
	Above 40	3.09	1.379					26-40	Above 40
	Total	3.40	1.383	Total	954.392				
Machine Equipment	18-25	1.50	1.084	Between Groups	24.93	7.183	0.001	26-40	18-25
	26-40	1.89	1.329	Within Groups	862.35			Above 40	18-25*
	Above 40	2.56	1.561						26-40*
	Total	1.88	1.333	Total	887.27				

*Significant

df (Between groups)= 2, df(Within groups)=497 and Total =499 for every techniques of pottery.

4.8.3 The Impact of Racial Differences among Potters' Groups on Selected Types of Pottery

As was reported in the table 4.9, the variances in this part manifested between the different racial groups which consist of (Malay, Chinese, and Indian) and selected types of pottery production (i.e., platters, Mugs, Bowls, pitchers, urns, pots, vessels, vases, and house furniture). Yet, results indicate that, there is no significant difference among racial groups of potters with respects to the types of platters, Urns, Pots, and house furniture; due to these mentioned types of pottery, which are marked greater than 0.05 which should be equal or less than 0.05 (P<.05) to be significant. On other hand, results shown in racial groups of potters were reported significantly in specific types of pottery that are namely (Mugs F(2, 497)=10.632, P=0.000; Bowls F(2, 497)=9.715, P=0.000; Pitcher F(2, 497)=7.829, P=0.000; Vessels F(2, 497)=7.915, P=0.000; and Vases F(2, 497) =12.485, P=0.000). The effect size conducted by Eta Squared formula in equation (2) indicates that, the variances in three racial groups of potters producing the types of (Mugs=0.04; Bowls=0.04; Pitcher=0.03; Vessels=0.03, and Vases=0.05) are effectively small values, based on Cohen's classification.

Using the post-hoc test along with tukey HSD test gives us the actual variances among the significant groups of racial groups in terms of types of pottery. The group of Malay (M=2.01, SD=0.864) presents significantly different in making Mugs type of pottery from the Chinese group (M=1.68, SD=0.62), and Indian group (M=1.71, SD=0.789), while the Indian group shows no significant from the Chinese group. In addition, in the product of Bowls, the group of Malay (M=2.56, SD=1.144) differentiates significantly from Chinese (M=1.7, SD=0.734), however insignificant from the Indian group (M=1.85, SD=0.906) and the Indian group shows insignificant variance from the Chinese group. In pitcher type, the group of Malay (M=2.56, SD=1.144) with differentiates significantly from the Chinese group (M=2.13,

SD=1.072) in comparing to insignificantly different from the Indian group (M=2.44, SD=1.038), and the Indian group is not differed significantly from the Chinese group. In both types; vessel and vases, the Chinese group (Vessels M=2.20, SD=1.190; vases=2.08, SD=1.194) is significantly different from the Malay group (Vessels M=1.85, SD=1.1073; vases=1.68, SD=1.032). Likewise, Indian group (Vessels=2.37, SD=1.312; vases=2.37, SD=1.338) displays significant variance from the Malay group, which insignificant in the group of Indian from the Chinese group.

Table 4.9: ANOVA & Post-Hoc Tests Used in Variation in Racial Groups on Types of Pottery.

				ANOVA test				Post-hoc test	
Types of pottery	**Races**	**Mean**	**SD**		**Sum of Sqr.**	**F**	**Sig.**	**(I) Race**	**(J) Race**
Platters	Malay	1.94	0.782	Between Groups	2.695	5.544	0.079	Malay	Chinese
	Chinese	1.86	0.631	Within Groups	263.03				Indian
	Indian	1.71	0.696					Chinese	Indian
	Total	1.89	0.730	Total	265.73				
Mugs	Malay	2.01	0.864	Between Groups	12.122	13.63	0.000	Malay	Chinese*
	Chinese	1.68	0.620	Within Groups	306.69				Indian*
	Indian	1.71	0.789					Indian	Chinese
	Total	1.87	0.801	Total	319.81				
Bowls	Malay	2.11	1.042	Between Groups	17.105	5.91	0.000	Malay	Chinese*
	Chinese	1.70	0.734	Within Groups	437.543				Indian
	Indian	1.85	0.906					Indian	Chinese
	Total	1.95	0.955	Total	454.65				
Pitcher	Malay	2.56	1.144	Between Groups	19.266	4.298	0.000	Malay	Chinese*
	Chinese	2.13	1.072	Within Groups	611.50				Indian
	Indian	2.44	1.038					Indian	Chinese
	Total	2.41	1.124	Total	630.77				
Urns	Malay	2.89	0.792	Between Groups	0.832	3.581	0.437	Malay	Indian
	Chinese	2.96	0.544	Within Groups	249.37			Chinese	Malay
	Indian	2.83	0.673						Indian
	Total	2.90	0.708	Total	250.20				

Table 4.9, continued

Types of pottery	Races	Mean	SD		Sum of Sqr.	F	Sig.	(I) Race	(J) Race
Pots	Malay	2.38	0.958	Between Groups	1.165	3.099	0.541	Chinese	Malay
	Chinese	2.48	1.036	Within Groups	470.47				Indian
	Indian	2.46	0.857					Indian	Malay
	Total	2.42	0.972	Total	471.64				
Vessel	Malay	1.85	1.073	Between Groups	20.611	0.730	0.000	Chinese	Malay*
	Chinese	2.20	1.190	Within Groups	647.10			Indian	Malay*
	Indian	2.37	1.312						Chinese
	Total	2.02	1.157	Total	667.71				
Vases	Malay	1.68	1.032	Between Groups	31.56	2.453	0.000	Chinese	Malay*
	Chinese	2.08	1.194	Within Groups	628.17			Indian	Malay*
	Indian	2.37	1.338						Chinese
	Total	1.89	1.150	Total	659.73				
House Furniture	Malay	3.18	0.920	Between Groups	3.90	0.212	0.106	Malay	Chinese
	Chinese	3.14	0.951	Within Groups	430.12				Indian
	Indian	2.90	0.923					Chinese	Indian
	Total	3.13	0.933	Total	434.02				

*Signifcant

df (Between groups)= 2, df(Within groups)=497 and Total =499 for every types of pottery.

4.8.4 The Impact of Racial Differences among Potters' Groups on Selected Techniques of Pottery

This part of test examines the impact of variation in racial groups of potters on selected techniques of pottery production. According to the results shown in the table 4.10 there are no significant variation among racial groups of potters using the techniques of handbuilt and coiling. However, considering other techniques of pottery, results show that, there are significant variances among racial groups of potters utilizing following techniques [Casting $F(2, 497)=4.285$, $P=0.01$; Wheel $F(2, 497)=7.992$, $P=0.000$; and Machine Equipment $F(2, 497)=5.866$, $P=0.003$]. Effect size values in the

significant cases of racial potters' groups involving casting, wheel, and machine equipment techniques are generally in their effect of variation (casting =0.02; wheel=0.03; and Machine Equipment=0.02) which calculated using equation (2) of eta squared formula.

Results conducted by post-hoc test including with tukey HSD indicate that, the Indian group (M=2.07, SD=1.285) that use casting technique is significantly difference from Malay group (M=1.66, SD=0.965), whereas other groups of Chinese (M=1.82, SD=1.071) and Indian are insignificant from the groups of Malay and Chinese respectively. In both techniques of wheel and machine equipment of pottery indicate that the group of Chinese (wheel M=2.56, SD=1.286; machine equipment M=2.14, SD=1.475) significantly differentiates from the Malay group (wheel M=2.10, SD=1.177; machine equipment M=1.71, SD=1.187), while insignificant from Indian group (wheel M=2.47, SD=1.251; machine equipment M=2.02, SD=1.480). As well, the group of Indian shows insignificant from the Malay group in both wheel and machine equipment techniques.

Table 4.10: ANOVA & Post-Hoc Tests Used in Variation in Racial Groups on Techniques of Pottery.

				ANOVA test				Post-hoc test	
Techniques of pottery	**Races**	**Mean**	**SD**		**Sum of Sqr.**	**F**	**Sig.**	**(I) Race**	**(J) Race**
Handbuilt	Malay	3.48	1.318	Between Groups	0.947	0.279	0.757	Chinese	Malay
	Chinese	3.58	1.250	Within Groups	843.89				Indian
	Indian	3.53	1.369					Indian	Malay
	Total	3.52	1.301	Total	844.84				
Casting	Malay	1.66	0.965	Between Groups	9.285	4.285	0.014	Chinese	Malay
	Chinese	1.82	1.071	Within Groups	538.43			Indian	Malay*
	Indian	2.07	1.285						Chinese
	Total	1.76	1.048	Total	547.72				
Wheel	Malay	2.10	1.177	Between Groups	23.836	7.992	0.000	Chinese	Malay*
	Chinese	2.56	1.286	Within Groups	741.11				Indian
	Indian	2.47	1.251					Indian	Malay
	Total	2.29	1.238	Total	764.95				
Coiling	Malay	3.37	1.346	Between Groups	1.505	0.393	0.676	Chinese	Malay
	Chinese	3.48	1.418	Within Groups	952.89				Indian
	Indian	3.37	1.473					Indian	Malay
	Total	3.40	1.383	Total	954.392				
Machine Equipment	Malay	1.71	1.187	Between Groups	20.460	5.866	0.003	Chinese	Malay*
	Chinese	2.14	1.475	Within Groups	866.81				Indian
	Indian	2.02	1.480					Indian	Malay
	Total	1.88	1.333	Total	887.27				

*Significant

df (Between groups)= 2, df(Within groups)=497 and Total =499 for every techniques of pottery.

4.8.5 The Impact of Career Affiliation Differences among Potters' Groups on Selected Types of Pottery

Table 4.11 below reports the results of variances yielded between career affiliation's groups of potters, which are listed namely (craft complex, craft factory, and private company/Craft shops), and selected types of pottery produced by potters'

groups. Yet, the results conducted by ANOVA test indicate that, there are significant differences between the following types of pottery [Mugs $F(2, 497)=3.415$, $P=0.034$; Bowls $F(2, 497)=6.85$, $P=0.001$; Pitcher $F(2, 497)=3.80$, $P=0.023$; Urns $F(2, 497)=7.35$, $P=0.001$]. However, effect size values calculated using eta squared in equation (2) in the cases of significant types of pottery indicate that, all significant types are shown to have small effect in variation of career affiliation groups producing the following types (Mugs=0.01; Bowls=0.03; Pitcher=0.02; and Urns=0.03).

The actual differences are shown by the test of Post-hoc. It indicates that, the group of private company/craft shop group of mugs, bowls and pitcher types of pottery (mugs M=2.02, SD=0.910; bowls M=2.20, SD=0.958; pitcher M=2.65, SD=1.011) vary significantly from the craft factory group (mugs M=1.77, SD=0.662; bowls M=1.78, SD=0.797; pitcher M=2.29, SD=1.127). It is produced more than insignificant from the craft complex group (mugs M=1.88, SD=0.834; bowls M=1.95, SD=1.047; pitcher M=2.37, SD=1.167), as well, the craft complex group shows insignificant variance from the craft factory group. In addition, Urns type of pottery indicates that, group of craft factory (M=3.04, SD=0.590) varies significantly from the craft complex (M=2.77, SD=0.768), however insignificant from the private company/craft shop group (M=2.91, SD=0.726). The private company/craft shop group does not differ also significantly from craft complex group in urns type of pottery.

Table 4.11: ANOVA & Post-Hoc Tests Used in Variation of Career Affiliation Groups on Types of Pottery.

				ANOVA test				Post-hoc test	
Types of pottery	**Comp**	**Mean**	**SD**		**Sum of Sqr.**	**F**	**Sig.**	**(I) Comp**	**(J) Comp**
Platters	Craft complex	1.87	0.763	Between Groups	0.750	0.704	0.495	Craft complex	Craft factory
	Craft factory	1.86	0.653	Within Groups	264.98			Private company/ Craft shop	Craft complex
	Private company/ Craft shop	1.96	0.781						Craft factory
	Total	1.89	0.730	Total	265.73				
Mugs	Craft complex	1.88	0.834	Between Groups	4.335	3.415	0.034	Craft complex	Craft factory
	Craft factory	1.77	0.662	Within Groups	315.47			Private company/ Craft shop	Craft complex
	Private company/ Craft shop	2.02	0.910						Craft factory*
	Total	1.87	0.801	Total	319.81				
Bowls	Craft complex	1.95	1.047	Between Groups	12.20	6.853	0.001	Craft complex	Craft factory
	Craft factory	1.78	0.797	Within Groups	442.45			Private company/ Craft shop	Craft complex
	Private company/ Craft shop	2.20	0.958						Craft factory*
	Total	1.95	0.955	Total	454.65				
Pitcher	Craft complex	2.37	1.167	Between Groups	9.50	3.801	0.023	Craft complex	Craft factory
	Craft factory	2.29	1.127	Within Groups	621.27			Private company/ Craft shop	Craft complex
	Private company/ Craft shop	2.65	1.011						Craft factory*
	Total	2.41	1.124	Total	630.77				
Urns	Craft complex	2.77	0.768	Between Groups	7.19	7.350	0.001	Craft factory	Craft complex*
	Craft factory	3.04	0.590	Within Groups	243.01				Private company/ Craft shop
	Private company/ Craft shop	2.91	0.726					Private company/ Craft shop	Craft complex
	Total	2.90	0.708	Total	250.20				
Pots	Craft complex	2.44	0.066	Between Groups	2.85	1.512	0.221	Craft complex	Craft factory
	Craft factory	2.33	1.000	Within Groups	468.79			Private company/ Craft shop	Craft complex
	Private company/ Craft shop	2.52	0.979						Craft factory
	Total	2.42	0.972	Total	471.64				

Table 4.11, continued

Types of pottery	Comp	Mean	SD		Sum of Sqr.	F	Sig.	(I) Comp	(J) Comp
Vessel	Craft complex	2.01	1.125	Between Groups	4.18	1.566	0.210	Craft complex	Craft factory
	Craft factory	1.94	1.189	Within Groups	663.53			Private company/ Craft shop	Craft complex
	Private company/ Craft shop	2.18	1.157						Craft factory
	Total	2.02	1.157	Total	667.71				
Vases	Craft complex	1.82	1.097	Between Groups	3.78	1.430	0.240	Craft factory	Craft complex
	Craft factory	1.86	1.187	Within Groups	655.95			Private company/ Craft shop	Craft complex
	Private company/ Craft shop	2.04	1.177						Craft factory
	Total	1.89	1.150	Total	659.73				
House Furniture	Craft complex	3.19	0.872	Between Groups	2.79	1.607	0.201	Craft complex	Craft factory
	Craft factory	3.03	0.991	Within Groups	431.23			Private company/ Craft shop	Craft complex
	Private company/ Craft shop	3.20	0.940						Craft factory
	Total	3.13	0.933	Total	434.02				

*Significant

df (Between groups)= 2, df(Within groups)=497 and Total =499 for every types of pottery.

4.8.6 The Impact of Career Affiliation Differences among Potters' Groups on Selected Techniques of Pottery

Table 4.12displays the results of ANOVA and Post-hoc tests. Thus, the process of these tests were set here to identify the variances between two variables, career affiliation groups which are (craft factories, craft complex, and private company/craft shops) and techniques of pottery production (i.e., Handbuilt, casting, wheel, coiling, and machine equipment). The results recorded in the table 4.12indicates that, there was no significant value in any mean difference can be observed among career affiliation groups and techniques of pottery production. Apparently, results indicate that, the three groups of career affiliation are no more variance when applying the results on selected techniques of pottery production.

Table 4.12: Post-Hoc Test Used in Variation in Career Affiliation Groups on Techniques of Pottery.

				ANOVA test				Post-hoc test	
Techniques of pottery	**Comp**	**Mean**	**SD**		**Sum of Sqr.**	**F**	**Sig.**	**(I) Comp**	**(J) Comp**
Handbuilt	Craft complex	3.67	1.301	Between Groups	8.42	2.502	0.083	Craft complex	Craft factory
	Craft factory	3.42	1.256	Within Groups	836.42				Private company /Craft shop
	Private company/ Craft shop	3.39	1.352					Craft factory	Private company/ Craft shop
	Total	3.52	1.301	Total	844.84				
Casting	Craft complex	1.73	1.011	Between Groups	0.99	0.449	0.638	Craft factory	Craft complex
	Craft factory	1.74	1.031	Within Groups	546.73			Private company/ Craft shop	Craft complex
	Private company/ Craft shop	1.84	1.137						Craft factory
	Total	1.76	1.048	Total	547.72				
Wheel	Craft complex	2.32	1.172	Between Groups	2.92	0.954	0.386	Craft complex	Private company/ Craft shop
	Craft factory	2.35	1.324	Within Groups	762.03			Craft factory	Craft complex
	Private company/ Craft shop	2.15	1.215						Private company/ Craft shop
	Total	2.29	1.238	Total	764.95				
Coiling	Craft complex	3.43	1.408	Between Groups	0.56	0.147	0.863	Craft complex	Craft factory
	Craft factory	3.36	1.416	Within Groups	953.83				Private company/ Craft shop
	Private company/ Craft shop	3.42	1.295					Private company/ Craft shop	Craft factory
	Total	3.40	1.383	Total	954.39				
Machine Equipment	Craft complex	1.81	1.298	Between Groups	3.20	0.900	0.407	Craft factory	Craft complex
	Craft factory	1.88	1.341	Within Groups	884.07			Private company/ Craft shop	Craft complex
	Private company/ Craft shop	2.02	1.383						Craft factory
	Total	1.88	1.333	Total	887.27				

*Significant

df (Between groups)= 2, df(Within groups)=497 and Total =499 for every techniques of pottery.

4.8.7 The Impact of Regional Differences among Potters' Groups on Selected Types of Pottery

Table 4.13 shows the results that have reported into two tests of ANOVA and Tuckey's Post-Hoc in order to set a multiple-comparison between two variables: Malay Peninsula' States and the categories of types of pottery. The states of Malay's Peninsula as were listed in the table namely are Perak, Johor, Penang, Kedah, Melaka, Negeri Sembilan, and Kuala Lumpur. Regarding to the results yielded, it is claimed that, there have found significant variances among several groups of regional differences using the following techniques of pottery [Platters $F(6, 493)=7.544$, $P=0.000$; Mugs $F(6, 493)=7.509$, $P=0.000$; Bowls $F(6, 493)=7.891$, $P=0.000$; Pitcher $F(6, 493)=5.465$, $P=0.000$; Pots $F(6, 493)=3.576$, $P=0.002$; Vessels $F(6, 493)=3.972$, $P=0.001$; and Vases $F(6, 493)=3.496$, $P=0.002$]. Moreover, the values of effect size that are conducted by Eta squared formula in equation (2) indicate that, (Platters=0.08; Mugs=0.08; Bowls=0.09; Pitcher=0.06; Pots=0.04, vessels=0.05, and vases=0.04) are considered small size in effect.

The other test of tukey's post-hoc indicates actual variances among potters' groups of regional states for the type of platter, Mugs, Bowls, Pitcher, Pots, vessels, and vases. In platter, Perak (M=2.06, SD=0.86) and Negeri Sembilan (M=2.1, SD=0.62) groups show significantly different from Kedah (M=1.65, SD=0.57) and Kuala Lumpur (M=1.62, SD=0.61). Melaka group (M=2.27, SD=0.9) vary also significantly from the groups of Johor (M=1.92, SD=0.62), Penang (M=1.77, SD=0.69), Kedah and Kuala Lumpur. The pottery types of Mug, Perak group (M=2.08, SD=1.04) are shown significantly different from the groups of Penang (M=1.68, 0.61) and Kuala Lumpur (M=1.47, SD=0.6). As well, Johor (M=1.91, SD=0.64) and Negeri Sembilan (M=2.00, SD=0.53) groups present also significant variations from Kuala Lumpur. Furthermore,

Melaka group (M=2.27, SD=0.94) shows variance significant from the groups of Penang, Kuala Lumpur, and Kedah (M=1.75, SD=0.74).

Concerning to Bowl types of pottery, tukey test demonstrates the actual differences among certain regional states of Peninsula Malaysia. The Perak group (M=2.20, SD=1.17) shows variance from Kedah (M=1.75, SD=0.92), and Kuala Lumpur (M=1.33, SD=0.60). Likewise, the groups of Johor (M=2.07, SD=0.92), Penang (M=1.90, SD=0.75), and Negeri Sembilan (M=2.10, SD=0.72) are shown significantly different from the Kuala Lumpur group. Yet, the Melaka group (M=2.27, SD=0.98) is also shown significantly different from the groups of Kedah. Negeri Sembilan, and Kuala Lumpur based on Pitcher type of pottery, the groups of Perak (M=2.51, SD=1.18), Johor (M=2.54, SD=1.10), Penang (M=2.38, SD=1.03), Kedah (M=2.31, SD=1.15), Melaka (M=2.82, SD=1.11), and Negeri Sembilan (M=2.59, SD=0.91) show differences significant from the Kuala Lumpur group (M=1.75, SD=1.00). Results recorded in pot types of pottery, the groups of Perak (M=2.61, SD=0.96), Johor (M=2.51, SD=0.92), and Penang (M=2.48, SD=0.96) are shown differentiates significantly from Kedah group (M=2.01, SD=0.87). Due to the vessel types of pottery, the Johor group (M=2.18, SD=1.26) differ significantly from the Kedah group (M=1.66, SD=1.07); as well, the Kuala Lumpur group (M=2.47, SD=1.17) show actual differences from the groups of Kedah, and Negeri Sembilan (M=1.62, SD=0.86). Lastly, in vase types of pottery, the Kuala Lumpur group (M=2.30, SD=1.08) displays variance from Kedah (M=1.61, SD=1.09) and Negeri Sembilan (M=1.45, SD=0.95).

Table 4.13: ANOVA & Post-Hoc Tests Used in Variation of Regional Differences Groups on Types of Pottery.

				ANOVA test				Post-hoc test	
Types of pottery	**Resi**	**Mean**	**SD**		**Sum Sqr.**	**F**	**Sig.**	**(I)Resi**	**(J) Resi***
Platters	Perak	2.06	0.86	Between Groups	22.35	7.544	0.000	Perak	Kedah
	Johor	1.92	0.62						Kuala Lumpur
	Penang	1.77	0.69					Melaka	Johor
	Kedah	1.65	0.57	Within Groups	243.38				Penang
	Melaka	2.27	0.90						Kedah
	Negeri Sembilan	2.1	0.62						Kuala Lumpur
	Kuala Lumpur	1.62	0.61					Negeri Sembilan	Kedah
	Total	1.89	0.73	Total	265.73				Kuala Lumpur
Mugs	Perak	2.08	1.04	Between Groups	26.78	7.509	0.000	Perak	Penang
	Johor	1.91	0.64						Kuala Lumpur
	Penang	1.68	0.61					Johor	Kuala Lumpur
	Kedah	1.75	0.74	Within Groups	293.03			Melaka	Penang
	Melaka	2.27	0.94						Kedah
	Negeri Sembilan	2.00	0.53						Kuala Lumpur
	Kuala Lumpur	1.47	0.60					Negeri Sembilan	Kuala Lumpur
	Total	1.87	0.80	Total	319.81				
Bowls`	Perak	2.20	1.17	Between Groups	39.84	7.891	0.000	Perak	Kedah
	Johor	2.07	0.92						Kuala Lumpur
	Penang	1.90	0.75					Johor	Kuala Lumpur
	Kedah	1.75	0.92	Within Groups	414.81			Penang	Kuala Lumpur
	Melaka	2.27	0.98					Melaka	Kedah
	Negeri Sembilan	2.10	0.72						Negeri Sembilan
	Kuala Lumpur	1.33	0.60						Kuala Lumpur
	Total	1.95	0.95	Total	454.65			Negeri Sembilan	Kuala Lumpur

Table 4.13, continued

				ANOVA test				Post-hoc test	
Types of pottery	**Resi**	**Mean**	**SD**		**Sum of Sqr.**	**F**	**Sig.**	**(I)Resi**	**(J) Resi***
Pitcher	Perak	2.51	1.18	Between Groups	39.34	5.465	0.000	Perak	Kuala Lumpur
	Johor	2.54	1.10					Johor	Kuala Lumpur
	Penang	2.38	1.03					Penang	Kuala Lumpur
	Kedah	2.31	1.15					Kedah	Kuala Lumpur
	Melaka	2.82	1.11	Within Groups	591.43			Melaka	Kuala Lumpur
	Negeri Sembilan	2.59	0.91					Negeri Sembilan	Kuala Lumpur
	Kuala Lumpur	1.75	1.00						
	Total	2.41	1.12	Total	630.77				
Urns	Perak	2.75	0.83	Between Groups	4.97	1.664	0.128		
	Johor	2.91	0.74						
	Penang	2.93	0.75						
	Kedah	2.98	0.50	Within Groups	245.23				
	Melaka	3.10	0.85						
	Negeri Sembilan	2.83	0.54						
	Kuala Lumpur	2.87	0.54						
	Total	2.90	0.71	Total	250.20				
Pots	Perak	2.61	0.96	Between Groups	19.67	3.576	0.002	Perak	Kedah
	Johor	2.51	0.92					Johor	Kedah
	Penang	2.48	0.96					Penang	Kedah
	Kedah	2.01	0.87	Within Groups	451.97				
	Melaka	2.43	1.15						
	Negeri Sembilan	2.45	0.87						
	Kuala Lumpur	2.45	1.00						
	Total	2.42	0.97	Total	471.64				

Table 4.13, continued

				ANOVA test				Post-hoc test	
Types of pottery	**Resi**	**Mean**	**SD**		**Sum of Sqr.**	**F**	**Sig.**	**(I)Resi**	**(J) Resi***
Vessel	Perak	2.04	1.01	Between Groups	30.79	3.972	0.001	Johor	Kedah
	Johor	2.18	1.26					Kuala Lumpur	Kedah
	Penang	2.04	1.21						Negeri Sembilan
	Kedah	1.66	1.07	Within Groups	636.93				
	Melaka	1.98	1.21						
	Negeri Sembilan	1.62	0.86						
	Kuala Lumpur	2.47	1.17						
	Total	2.02	1.16	Total	667.71				
Vases	Perak	1.89	1.07	Between Groups	26.92	3.496	0.002	Kuala Lumpur	Kedah
	Johor	2.03	1.20						Negeri Sembilan
	Penang	1.99	1.22						
	Kedah	1.61	1.09	Within Groups	632.81				
	Melaka	1.73	1.20						
	Negeri Sembilan	1.45	0.95						
	Kuala Lumpur	2.30	1.08						
	Total	1.89	1.15	Total	659.73				
House Furniture	Perak	3.24	0.96	Between Groups	3.67	0.701	0.649		
	Johor	3.11	0.97						
	Penang	3.14	1.06						
	Kedah	3.16	0.93	Within Groups	430.35				
	Melaka	2.96	0.77						
	Negeri Sembilan	2.97	0.78						
	Kuala Lumpur	3.18	0.87						
	Total	3.13	0.93	Total	434.02				

df (Between groups)= 6, df(Within groups)=493 and Total =499 for every types of pottery.

4.8.8 The Impact of Regional Differences among Potters' Groups on Selected Techniques of Pottery

The results recorded in the table 4.14 below show the differences between several groups of regional states of potters and selected techniques of pottery production. The test of ANOVA indicates that, there are significant variances among the groups of potters are in different regional states of Malay Peninsula. The differences involve in the certain techniques of pottery [Handbuilt$F(6, 493)=8.654$, $P=0.000$; Casting $F(6, 493)=2.757$, $P=0.01$; Wheel $F(6, 493)=8.539$, $P=0.000$; Coiling$F(6, 493)=4.356$, $P=0.000$; Machine Equipment $F(6, 493)=3.716$, $P=0.001$]. The effect size calculated by Eta squared shows that in equation (2), there are small variations among the different groups of potters living in several states of Peninsula Malaysia and conducting the following techniques of pottery (Handbuilt=0.095; Casting=0.03; Wheel=0.09; Coiling=0.05; Machine Equipment=0.04). The values that are marked significantly in differences comprise the techniques of hand-built, casting, wheel, coiling, and machine equipment respectively.

The actual variances among the regional states groups of potters conducted by using Post-hoc tukey test. The results recorded in the table 4.14 shown in handbuilt technique that the groups of Perak (M=3.80, SD=1.19), Johor (M=3.58, SD=1.23), and Penang (M=3.59, SD=1.26) are presented significant difference from the Melaka (M=2.84, SD=1.14), and Negeri Sembilan (M=2.76, SD=1.15). Yet, the Kuala Lumpur group (M=4.18, SD=1.21) is significantly different from the groups of Johor, Kedah (M=3.27, SD=1.40), Melaka, and Negeri Sembilan. The variation among regional states groups of potters that involve in wheel technique indicates that the groups of Perak (M=2.63, SD=1.14), Johor (M=2.21, SD=1.28), Kedah (M=2.46, SD=1.29), and Kuala Lumpur (M=2.70, SD=1.00) are shown significant variance from the Melaka (M=1.61, SD=1.06) and Negeri Sembilan (M=1.38, SD=0.98) groups. Furthermore, the Penang

group shows difference significant from Melaka group. Coiling technique indicates that, the Penang group (M=3.52, SD=1.26) displays significant variance from the Negeri Sembilan group (M=2.59, SD=1.02), as well, the groups of Kedah (M=3.63, SD=1.39) and Kuala Lumpur (M=3.72, SD=1.47) differentiate significantly from Melaka (M=2.92, SD=1.28) and Negeri Sembilan. The groups of potters living in different states of Peninsula Malaysia, which concentrate in their production on the technique of Machine Equipment, the Kuala Lumpur group (M=2.33, SD=1.62) differentiate significantly from the groups of Johor (M=1.62, SD=1.10), Melaka (M=1.53, SD=0.95), and Negeri Sembilan (M=1.45, SD=0.95).

Table 4.14: ANOVA & Post-Hoc Tests Used in Variation of Regional Differences Groups on Techniques of Pottery.

				ANOVA test				Post-hoc test	
Techniques of pottery	**Resi**	**Mean**	**SD**		**Sum of Sqr.**	**F**	**Sig.**	**(I)Resi**	**(J) Resi***
Handbuilt	Perak	3.80	1.19	Between Groups	80.498	8.654	0.000	Perak	Melaka
	Johor	3.58	1.23						Negeri Sembilan
	Penang	3.59	1.26					Johor/ Penang	Melaka
	Kedah	3.27	1.40	Within Groups	764.340				Negeri Sembilan
	Melaka	2.84	1.14					Kuala Lumpur	Johor
	Negeri Sembilan	2.76	1.15						Kedah
	Kuala Lumpur	4.18	1.21						Melaka
	Total	3.52	1.30	Total	844.84				Negeri Sembilan
Casting	Perak	1.90	1.03	Between Groups	17.780	2.757	0.012		
	Johor	1.85	1.10						
	Penang	1.77	1.03						
	Kedah	1.45	0.89						
	Melaka	1.96	1.25	Within Groups	529.938				
	Negeri Sembilan	1.38	0.82						
	Kuala Lumpur	1.83	1.03						
	Total	1.76	1.05	Total	547.72				

Table 4.13, continued

				ANOVA test				Post-hoc test	
Techniques of pottery	**Resi**	**Mean**	**SD**		**Sum of Sqr.**	**F**	**Sig.**	**(I)Resi**	**(J) Resi***
Wheel	Perak	2.63	1.14	Between Groups	72.015	8.539	0.000	Perak/ Johor	Melaka
	Johor	2.21	1.28						Negeri Sembilan
	Penang	2.26	1.27					Penang	Melaka
	Kedah	2.46	1.29	Within Groups	692.935			Kedah	Melaka
	Melaka	1.61	1.06						Negeri Sembilan
	Negeri Sembilan	1.38	0.98					Kuala Lumpur	Melaka
	Kuala Lumpur	2.70	1.00						Negeri Sembilan
	Total	2.29	1.24	Total	764.95				
Coiling	Perak	3.58	1.38	Between Groups	48.050	4.356	0.000	Penang	Negeri Sembilan
	Johor	3.25	1.41					Kedah	Melaka
	Penang	3.52	1.26						Negeri Sembilan
	Kedah	3.63	1.39	Within Groups	906.342			Kuala Lumpur	Melaka
	Melaka	2.92	1.28						Negeri Sembilan
	Negeri Sembilan	2.59	1.02						
	Kuala Lumpur	3.72	1.47						
	Total	3.40	1.38	Total	954.392				
Machine Equipment	Perak	2.04	1.41	Between Groups	38.389	3.716	0.001	Kuala Lumpur	Johor
	Johor	1.62	1.10						Melaka
	Penang	2.14	1.44						Negeri Sembilan
	Kedah	1.87	1.38	Within Groups	848.883				
	Melaka	1.53	0.95						
	Negeri Sembilan	1.45	0.95						
	Kuala Lumpur	2.33	1.62						
	Total	1.88	1.33	Total	887.27				

df (Between groups)= 6, df(Within groups)=493 and Total =499 for every techniques of pottery.

4.9 Reliability Test

Reliability test is conducted as a necessary step to achieve internal consistency among the constructs of items used in the questionnaire. Internal consistency is an essential aspect used for obtaining the homogeneity. It is conducted to ensure that the items selected in the test are tapping only specific dimension, and are not related to other dimensions in the scale. The salient point for the concern of scale' internal consistency is how extent the items are hanged together; and whether these items are lined contextually to measure the same construct. Therefore, the value of cronbach's alpha coefficient is in common considered the accurate indicator for proving the homogeneity in the construct. There are different methods might be selected accordingly for the purpose of reliability. These methods are stated by (Cronbach, 1951) as following: split half, multiple form, item-item, item-total correlations, and finally cronbach's alpha; which the later one is being used in our research.

Ideally, the cronbach's alpha coefficient is preferred to be above 0.70 (Nunnally, 1967; Pallant, 2010). However, there is no standard agreement imposes elimination of small values from the certain scale; as some authors (Cronbach, 1951; Helmstadter, 1964) emphasize that, the small alpha value 0.50 is acceptable for measuring the internal consistency and might be usable for estimating the homogeneity in the reliability. On other hand, Briggs and Cheek (1986) suggest using the inter-items correlation for obtaining the optimal value of coefficient ringing from 0.20 to 0.40; despite these values were described by (Bowling, 2009) as weak values that should be eliminated. In turn, Gable (1986) estimated a reliability coefficient in a value of 0.80 as strong indicator for the consistency. Diversity of authors' views implies the fact of that, existing low values in alpha (e.g., 0.50) are common to be found in any research.

The reliability measurement for a scale is often evaluated differentially based on the sample that it is used with. Hence, reliability test is a usage for determining the

consistency in the relationships underlying the items in a scale. Thus, in the procedure of calculating the alpha value, if the values appeared to be below the standardized value; this case would be dealt exceptionally and the alpha value in the factor would be processed. In contrast, the valid items above recommended value are being decided to be adopted directly. As a result, the values of cronbach's alpha range between greater of 0.7 or lesser 0.4 as pointed by (Nunnally, 1962) indicate that, the reliability in the items is achieved appropriately.

The results of total procedures conducted for reliability analysis test are presented in the table 4.15; along with that, most cronbach's alpha values are recorded between 0.7 and 0.6 with retaining the low values appeared at 0.5. Results that reported the values of cronbach's alpha imply the coherent construction of items and the consistent that match every item with the dimension in the scale determined.

According to Lin &Wang (2012), the reliability of authenticity perception and perceived value latent structures were exceeded the recommended value of 0.70; while Chang (2008) reportsCronbach's alpha at 0.76. However, Hair *et al*., (2006) present a good alpha value in their study of 0.77. In my study, the cronbach's alpha coefficient was 0.765 that reported for market status and visually was resulted in line with the alpha that has been reported by Chang (2008). Government's initiative factor was recorded alpha value of 0.584, which is considered acceptable particularly as short sub-scale latent construct (Nunnally, 1967; Heung & Cheng, 2000). Other values of cronbach's alpha coefficient shown in each factor vary respectively according to the kinds of latent constructs retained.Yet, these values are scored as .743 for economic and ecological factors, .608 for ritual factor, .578 for social factor, .597 for types of pottery, and .611 for techniques of pottery. Entirely, the results of current study indicate adequate reliability (Devellis, 2011).

Table 4.15: Reports the Reliability of Cronbach's Alpha Coefficient.

Variable	Original number of Items	Original Cronbach's Alpha	Number of items deleted	Final number of items	Final Alpha
Market Status	24	0.620	7	17	0.765
Government's initiative	12	0.507	5	7	0.584
Economic & Ecological Factors	22	0.722	1	21	0.743
Ritual Factor	9	0.569	4	5	0.608
Social Factor	10	0.486	4	6	0.578
Types of pottery products	9	0.518	2	7	0.597
Techniques of pottery production	5	0.574	2	3	0.611

*****The number of items retained after deleting the extreme items is 17, 7, 21, 5, 6, 7, 3 respectively

4.10 Research Question Three: Partial Least Square Analyses

The composition of Structural Equation Model (SEM) is designed to deal with more complicated latent variables, indicators, and relationship among dependent and independent variables simultaneously. This allows the relationships to be modified and free of errors (Chin & Newsted, 2003).

The reason for using Partial Least Square (PLS) contextually centralized in some points: (1) the issues posed in literature review section emphasize that the structural of literature is biased to be viewed by exploratory approach then to be confirmatory due to the lack of theoretical information given (Hair *et al.*, 2011). (2) SEM-PLS is a appropriate choice for examining theories and shaping models of causal-predictive relationships among relative concepts in order to test such linear structural correlations.

The purpose of using partial least square is posed upon predication of postulated theoretical model through two steps. First step aims to verify the nature of relationship between latent variables and their respective measurement items (or block of indicators), which is called outer measurement model. This step is intentionally drawn to ensure the reliability and validation of constructs that are being utilized in our proposed model before moving to the inner structural model (Hulland, 1999; Morse &

Feshbach, 1953). Second step represents the structural model, which is designed to evaluate the expected relationships manifesting between the latent variables themselves as dependent and independent variables (Henseler *et al*., 2009; Morse & Feshbach, 1953).

4.10.1 Evaluation of the Proposed Outer Measurement Model

Terminologically, the outer measurement model is defined as block structure (Wold, 1980). The function of original outer measurement model is designed to predict the relationships between the observed variables (measurement items) with their own latent variables or hypothetical constructs. Additionally, it is used to test the reliability and validity of the manifested variables -block indicators- which are built together to constitute the latent variables then reduce unreliable manifested variables for the next model [See Figure C.1, C.2 in appendix C; complete measurement model before testing factor loading and dropping out unreliable items].

Moreover, in order to measure the reliability and identify reliable indicators the internal consistency is required to being considered in adequate level. Thus, the reliability of internal consistency is being evaluated as individual level.

Furthermore, in the context of internal consistency, it is noted that the consistence of reliable variables with factor loadings' scores are helpful in the test of consistency. However, it is preferred here the measurement conducted by composite reliability due to it is more accurate measure for the internal consistency of the indicators than Cronbach's Alpha. Cronbach's Alpha assumes that all indicators are equally reliable, whereas composite reliability accounts for the different loadings of indicators (Henseler *et al.*, 2009; Sijtsma, 2009). Thus, Cronbach's Alpha was not taken in account in our model. Yet, a value of .60 is acceptable as standard for composite reliability (Chin, 1998; Henseler *et al*., 2009; Morse & Feshbach, 1953).Summing up

the results of proposed outer measurement model indicates that adequate composite reliabilities obtained for all retained manifested variables and meanwhile, the other unreliable manifested variables were dropped out of the model.

The reliability of each indicator is measured through the strengthen of each indicator loadings with its respective construct; while higher loading indicate more shared variance between the constructs and the indicators than error variance (Henseler *et al*., 2009; Morse & Feshbach, 1953). Loading of .50 or higher between an observed variable and its respective construct (latent variable) is considered acceptable (Falk & Miller, 1992; Morse & Feshbach, 1953). In the proposed outer measurement model [See figure C.1& table C.12 in appendix], all loadings after filtering were reported adequately. Consequently, acceptable loadings were conceptualized as order, Consume, Cost, Knowledge, Plan, Profit, and Promotion in the latent of Market Status. Facilitation Potters, Financial Government, and Government Activity are labelled in the Government Initiative. Intellectual, Identical, Ritual Discriminations are remained adequately in the Ritual Factor. Social correlation, Training Courses are observed variables for the Social Factor. Authenticity, Ethnicity, Gender Variable, and Regional Differences are adequate observed variables in the Ecological Factor. Income, Depending on Pottery, and Member of Family are maintained adequately for the Economic Factor (See Table C.11 in the appendix showing the measurement model after filtering unreliable items; See Figure 4.12).

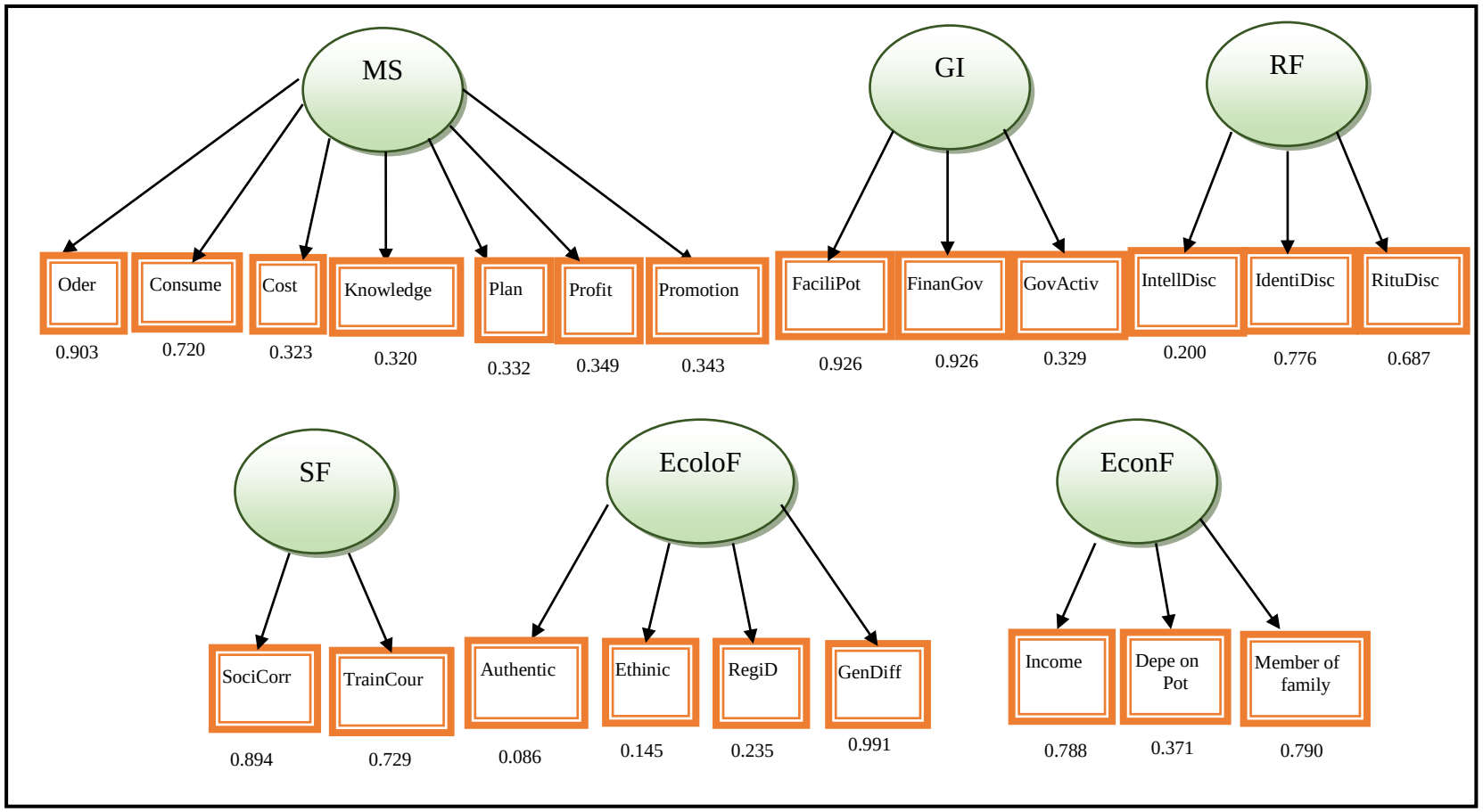

Figure 4.12: A Set of Latent Variables Stated in the Measurement Model Along with Their Indicators.

The results reported for the measures' scores demonstrate a strong internal consistence entirely for the maintained observed variables that generally each observed variable could represent their respective LVs. Thus, initially, the test of internal consistency indicate that there are namely seven LVs in the Market Status were explained through their observed variables which are namely Order, Consume, Cost, Knowledge, Plan, Profit, and Promotion. To assess the reliability of the manifested variables of each latent variable, PLS prioritizes indicators according to their reliability. Remained observed variables in the outer model show adequately reliable scores ranging from the highest in the market status,which is [Order], to the lowest [Knowledge] but not exceed the standard level of $P>.50$. According to the adequate scores of the measures that are loaded into each manifested variable, the manifested variable of Order is more adequately reliable; thus Order is suitably able to measure the latent variable of Market Status at (t=0.903) when compare it to the other observed variables. However, Consume also measures quite high Market Status than other manifested variables at (t=0.720).

In other meaning, Facilitation Potters, Financial Government, and Government Activity are all observations that in themselves are able to be represented by the concept of Government Activity. According to the priority, the highest reliable measure is Facilitation Potters and the lowest is Government Activity. Accounting the strength of reliable manifested variables, Facilitation of potters is accounted more reliable to reflect the factor of Government Initiative (t=0.926) in compare to Financial government (t=0.329). While, Government Activity is low to be representative by the latent variable of Government Initiative (t=0.200).

Similarly, the observed variables such as Intellectual, Identical, and Ritual Discriminations are adequately reflected by the concept of the latent variable of Ritual Factor. Additionally, Intellectual Discrimination was shown in the outer measurement

model as the more reliable (*t*=0.776) and able to represent the latent of Ritual Factor highly than Ritual Discrimination that is displayed only adequateat (*t*=0.736). Finally is the Identical Discrimination, which is shown adequate at (*t*=0.687). Likewise, Social Correlation and Training Courses are respectively representative observed variables underlying beneath the latent variable of Social Factor. Therefore, Social Correlation is considered highly reflected observed variable at (*t*=0.894), which clarify the Social Factor well when compare it to the value of training courses (*t*=0.729).

Moreover, Authentic, Ethnicity, Regional Difference, and Gender Variable are precisely extracted in order to be referred by the Ecological Factor. Ecological Factor was statistically predicted highly by only two adequate observed variables of four that are namely: Regional difference and Gender Variable in which gender variable is associated highly at (*t*=0.991) with the latent variable of Ecological Factor, than Regional Difference at (*t*=0.235). While, the two others Authenticity and Ethnicity failed to reflect Ecological Factor at (*t*=0.086) for authenticity, and (*t*= 0.145) for ethnicity respectively.

Eventually, income, depending on pottery, and members of family are the adequate concepts for measuring their association with the latent of Economic Factor. Accordingly, Member of Family is the highest observed variable that is inferred by Economic Factor, and then Income is classified in the second stage, and finally Depending on Pottery. Member of Family is more reliable in which are reflected by the Economic Factor at (*t*=0.790) when compare it to the two others: Income at (*t*=0.788) and Depending on Pottery at (*t*=0.371) (See Table 4.16).

Table 4.16: Shows Latent Constructs Along with Their Indicators Measured By the Reliability of Factor Loadings.

Construct/Indicator Remained Indictors	Reliability of the Indicator Factor Loadings[a]
MARKET STATUS	**0.218**
Order	**0.903**
Increasing demand leads to increase ceramic products (Order1)	
Increasing order indicator for multiplier (Order2)	
Consume	**0.720**
High Consumption is indicator for high quality (Consum1)	
High Consumption is indicator for enhanced products (Consum2)	
Cost	**0.323**
Increasing cost decreases big pottery (Cost1)	
Decreasing materials cost multiplies products quantities (Cost4)	
Promotion	**0.343**
Promoting pottery leads to multiplying products are required in market place (Promo1)	
Promoting pottery helps to diversify the skills (Promo3)	
Knowledge	**0.320**
Know the actual reason behand losses helps to avoid many losses (Knowledge1)	
Know market's rules diversifies pottery production(Knowledge3)	
Plan	**0.332**
Drawing prior plan multiplies pottery production(Plann1)	
Drawing a plan diversifies the skills of production (Plann3)	
Profit	**0.349**
Profit assists in multiplying quantities of pottery (Prof1)	
Increasing profit encourage enhancing pottery (Prof2)	
GOVERNMENT INITIATIVE	**0.091**
Government Activities	**0.200**
Participating in governmental activities reinforces production skills(Gov1)	
Governmental activities contributes increasing products (Gov2)	
Financial Government	**0.329**
Government financial support diversifies pottery(FinanGov1)	
Government financial support motivates increasing products(FinanGov3)	
Facilitation of Potters	**0.926**
Facilities given by government motivates multiplying pottery (FaciliPot1)	
Providing raw materials given by government contributes in diversification of products' size (FaciliPot3)	
ECONOMIC FACTOR	**0.174**
Depending on Pottery	**0.371**
Relying on pottery motivates to multiply pottery (DepenPot1)	
Rely on another source of livelihood weakness the quality(DepenPot3)	
Income	**0.788**
Lack of income affect the ability of creativity (Incom2)	
Lack of income reduces the effort made in the pottery (Incom3)	
Member of Family	**0.790**
Big family members produce large quantities of pottery(MembFam1)	
Big family members assist to enhance the production(MembFam3)	
ECOLOGICAL FACTOR	**-0.028**
Authenticity	**0.086**
Authenticity in production helps to continue traditional techniques (Authent1)	
Authentic products require high skills for simulating the techniques (Authent3)	
Ethnicity	**0.145**
Having different races in a group assists diversity the performance (Ethnicit1)	
Dealing with different races in one group grows different skills (Ethnicit2)	
Gender Variables	**0.991**
I cannot produce pottery regularly when i am holding household responsibility (GenderVar1)	
I am able to produce large quantities of pottery with handling another business (GenderVar2)	
I am often interested to highlight small aesthetical details (GenderVar3)	
I cannot stand the small details and i am more into the general lines (GenderVar4)	
Regional Differences	**0.235**
Shifting to different regions develops the skills of pottery (RegDifferen1)	
Different techniques taken from different regions grants the uniqueness to design (RegDifferen3)	

Table 4.16, continued

Construct/Indicator Remained Indictors	Reliability of the Indicator Factor Loadings[a]
RITUAL FACTOR	**0.070**
Ritual Discrimination	**0.736**
The duplication of Utilitarian Products due to religious' needs (RituDiscrimi1)	
Pottery made for religious purposes characterizes into precise techniques (RituDiscrimi2)	
Intellectual Discrimination	**0.776**
Pottery made for religious occasion is strong reflector for intellectual beliefs (IntellDiscrimi1)	
Diversity of intellectual trends drive to building skills (IntellDiscrimi3)	
Identical Discrimination	**0.687**
Potters' identity reveals the different skills of potters (IdentDiscrimi2)	
Potters' identity is confirmed from through the scale of production (IdentDiscrimi3)	
SOCIAL FACTOR	**0.097**
Social Correlation	**0.894**
The broad social correlations helps to improve potters' skills (SocialCorre1)	
The broad social correlations improve the ability to assimilate other culture (SocialCorre3)	
Training Courses	**0.729**
The training courses contributes enhancing the beginner performance (Trainin1)	
The training courses contributes in potters' capability (Trainin2)	
POTTERY PRODUCTION	**0.834**
Bowls	0.843
Mugs	0.804
Pitchers	0.705
Platters	0.721
Wheel	0.435
TYPES OF POTTERY PRODUCTION	**0.975**
Bowls	0.863
Mugs	0.829
Pitcher	0.708
Platter	0.748
Urns	0.156
TECHNIQUES OF POTTERY PRODUCTION	**0.437**
Hand-built	0.567
Coiling	0.675
Wheel	0.876

4.10.2 Validity Test (Convergent and Discriminant Validity)

In this section two test of validity were examined in the outer measurement model. Convergent validity demonstrates to which extent the items are converged a high proportion of variance with their specific constructs (Hair *et al*., 2006). Consequently, convergent validity is represented by the average variance extracted (AVE); as for each latent construct should be roughly 0.50 (Hair *et al*., 2006). This points out that the latent construct should be able to demonstrate at least half of the variances of their block indicators (Morse & Feshbach, 1953). Therefore, Fornell and larcker (1981) suggest utilizing average variance extracted as fundamental criteria for convergent validity. In the revised model, the process of elimination the feeble manifested variables -unreliable

indicators- with existing remained indicators enable LVs to grant a sustainable strength in terms of AVE and composite variables in the proposed measurement model. Hence, the maintained indicators in each construct could no more constitute a problematic in the outer measurement model; while all other constructs appropriately represent the concept of convergent validity with adequate AVE values (See Table 4.17).

Table 4.17: Convergent Validity Test in the Measurement Model.

Construct/Indicator	Reliability of the Indicator Factor Loadings[a]	Internal Consistency AVE	Composite Reliability[b]
MARKET STATUS			
Order			
(Order1)	0.797	**0.654**	**0.472**
(Order2)	0.820		
Consume			
(Consum1)	0.937	**0.624**	**0.760**
(Consum2)	0.608		
Cost			
(Cost1)	0.907	**0.612**	**0.754**
(Cost4)	0.633		
Promotion			
(Promo1)	0.855	**0.615**	**0.760**
(Promo3)	0.706		
Knowledge			
(Knowledge1)	0.650	**0.604**	**0.748**
(Knowledge3)	0.885		
Plan			
(Plann1)	0.786	**0.657**	**0.792**
(Plann3)	0.833		
Profit			
(Prof1)	0.780	**0.559**	**0.717**
(Prof2)	0.713		
GOVERNMENT INITIATIVE			
Government Activities			
(Gov1)	0.751	**0.583**	**0.735**
(Gov2)	0.778		
Financial Government			
(FinanGov1)	0.875	**0.606**	**0.751**
(FinanGov3)	0.667		
Facilitation of Potters			
(FaciliPot1)	0.961	**0.614**	**0.748**
(FaciliPot3)	0.552		
ECONOMIC FACTOR			
Depending on Pottery			
(DepenPot1)	0.707	**0.539**	**0.700**
(DepenPot3)	0.760		
Income			
(Incom1)	0.956	**0.566**	**0.699**
(Incom3)	0.465		

Table 4.17, continued

Construct/Indicator	Reliability of the Indicator Factor Loadings[a]	Internal Consistency AVE	Composite Reliability[b]
Member of Family			
(MembFam1)	0.988	**0. 544**	**0.657**
(MembFam3)	0.333		
ECOLOGICAL FACTOR			
Authenticity			
(Authent1)	0.664	**0.619**	**0.760**
(Authent3)	0.892		
Ethnicity			
(Ethnicit1)	0.619	**0.565**	**0.717**
(Ethnicit2)	0.864		
Gender Variables			
(GenderVar1)	0.954		
(GenderVar2)	0.955	**0.914**	**0.977**
(GenderVar3)	0.960		
(GenderVar4)	0.954		
Regional Differences			
(RegDifferen1)	0.803	**0.654**	**0.791**
(RegDifferen3)	0.814		
RITUAL FACTOR			
Ritual Discrimination			
(RituDiscrimi1)	0.495	**0.572**	**0.708**
(RituDiscrimi2)	0.948		
Intellectual Discrimination			
(IntellDiscrimi1)	0.944	**0.588**	**0.726**
(IntellDiscrimi3)	0.533		
Identical Discrimination			
(IdentDiscrimi2)	0.968	**0.555**	**0.683**
(IdentDiscrimi3)	0.416		
SOCIAL FACTOR			
Social Correlation			
(Social Corre1)	0.802	**0.645**	**0.784**
(Social Corre3)	0.803		
Training Courses			
(Trainin1)	0.958	**0.541**	**0.669**
(Trainin3)	0.404		
POTTERY PRODUCTION			
Bowls	0.842		
Mugs	0.803	**0.512**	**0.834**
Picher	0.705		
Platters	0.720		
Wheel	0.434		
Types of Products			
Bowls	0.862		
Mugs	0.828	**0.503**	**0.814**
Picher	0.708		
Platters	0.748		
Urns	0.156		
Techniques of Products			
Hand-built	0.566	**0.514**	**0.754**
Coiling	0.674		
Wheel	0.876		

With regards to second test of validity, which is discriminant validity, the procedure of estimating discriminant validity for each latent variable is conducted for calculating the loading of each indicator that is higher than their cross loadings' matrix (Henseler *et al*., 2009; Morse & Feshbach, 1953; Chin, 1998). By other word, it is usually estimated by comparing the root square of each latent construct with their inter-correlation of constructs (Imam, 2006). This is known asfundamental criterion for achieving discriminant validity. Alternatively, by Fornell-Larcker criterion of estimating that, each latent variable is assumed to share more variance with their respective measurement indicators than with other latent variables. The kind of criterion that was taken in mind for our model is represented by first method, which the results accordingly could meet the aspect of uniqueness for each construct with adequate values. In the test of discriminant validity with accordaning to the new model, the observed variable of losses in market status was marked in its respective latent variable with weak scores that is even in the case of replacement and/or distributing its indicators are still weak or might its weakness affects on the coherent of other variables. Hence, losses along with its block-indicators were preferred to be eliminated as a better solution. Similarly, the manifested variable of interaction in the social factor was trimmed from the construct as all its indicators displayed in low loadings. Likewise, the manifested indicator of governmental coordination was eliminated from the latent of government initiative that existencethisvariable has caused a low value in the composite reliability. In other hand, the latent variable of types of pottery products was initially handled by collapsing the construct and distributing its belonged indicators over other relative latent variables, but such solution was optional due to this solution was not supported theoretically by the scholars. Rather, it depends on the researcher to find solutions in order to keep strongly the relations when restructuring the model. Other solution of eliminating weak variables was finally conducted for the latent variable of

types of potteryproducts. in current model the manifested variables of latent constructs such as order, knowledge, cost, consume, plan, profit, promotion, financial government, government activity, facilitation of potters, depending on pottery, income, member of family, authenticity, ethnicity, regional differences, gender variable, intellectual, identical, ritual discriminations, social correlation, and finally training courses are respectively managed in adequate values of convergent and discriminant validity. As a result, discriminant validity was achieved in the revised model with all remaining latent variables. Hence, the revised model accordingly is referred to endorsing the proposed model (See table C. 12 in the appendix C).

4.10.3 Evaluation of the Proposed Inner Structural Model

This phase often comes after managing the reliability and validity in the outer measurement model. In the inner model, two types of issues were focused in. First, estimatment the amount of variance in the dependent latent variables, which is often explained by (R^2) in order to determine the degree of variances, either if it is weak (≥ .02), moderate (≥ .15), or strong (≥.26). It was calculated based on Cohen's (1987) standard of variance's values; second, determining the significant of variances in the dependent latent variables with its respective latent variables by using the value of *F*-test. In regarding to our proposed model, R^2 value of dependent construct–Pottery Production-in the inner structural model is ($R^2$0.20); this means that the dependent latent variable of pottery production can explain approximately 30% of the influential factors.

Moreover, the value of *F*-test in the current inner model indicates that all the exogenous latent variables are significant in the respectively uneven values except ecological factor (*t*. value = 0.908). InTable 4.18, it would be interpreted that, the significant items in the exogenous latent variables are predicated significantly by their belonged predictors. In other meaning, all sets of exogenous latent variables shown

significantly in the proposed model are assumed to predict the relations between themselves with the dependent latent variable [pottery production]. On the other sense, Ecological Factor [EcoloF],which is considered insignificant in their relation with the endogenous latent variable (Pottery Production), failed to be predicated by their respective predicators; while, Market Status [MS], Government's initiative [GI], Ritual Factor [RF], Social Factor [SF], and Economic Factor [EconF] significantly predict strong relations with their endogenous latent variable [pottery production]. Estimating the inner structural model is based on the new model that was established after trimming the weak path coefficient indicators from the model in order to improve the value of F-test in the pathway of evaluation.

Table 4.18: Shows Bath Coefficient Values in the Structural Model.

Path Coefficient	Original Sample (0)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (0/STERR)
Ecological F-> Pottery Production	-0.028	-0.042	0.031	0.907
Economic F-> Pottery Production	0.173	0.175	0.050	3.410
Government Initiative->Pottery Production	0.091	0.095	0.051	1.763
MS -> Pottery Production	0.217	0.215	0.050	4.332
Ritual Factor ->Pottery Production	0.070	0.072	0.042	1.633
Social Factor ->Pottery Production	0.096	0.097	0.047	2.017
Ecological F-> Authentic	0.085	0.096	0.043	1.97
Ecological F-> Ethnicity	0.145	0.151	0.040	3.62
Ecological F-> Gender Variables	0.990	0.990	0.005	179.34
Ecological F-> Regional Differen	0.234	0.236	0.077	3.020
Economic F -> Depending on Pottery	0.371	0.375	0.038	9.595
Economic F->Income	0.788	0.788	0.018	41.602
Economic F-> Member of Family	0.789	0.788	0.019	39.731
Government Initiative->FaciliPot	0.926	0.926	0.011	77.892
Government Initiative->FinanGov	0.329	0.331	0.045	7.199
Government Initiative->GovActiv	0.200	0.204	0.043	4.610
MS-> Consume	0.720	0.723	0.030	23.46
MS-> Cost	0.323	0.330	0.041	7.774
MS->Knowledge	0.320	0.326	0.041	7.775
MS-> Order	0.903	0.903	0.010	82.982
MS -> Plan	0.332	0.336	0.044	7.529
MS -> Profit	0.349	0.358	0.042	8.238
MS -> Promotion	0.343	0.352	0.041	8.286
Pottery Production->Techniques of Pottery	0.436	0.439	0.049	8.838
Pottery Production->Types of Pottery	0.974	0.974	0.004	200.84
Ritual Factor->IdentDiscrim	0.687	0.690	0.028	23.80

Table 4.18, continued

Path Coefficient	Original Sample (0)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (0/STERR)
Ritual Factor ->IntellDiscrim	0.776	0.776	0.023	33.14
Ritual Factor ->RituDiscrim	0.735	0.736	0.026	28.00
Social Factor-> Training Courses	0.728	0.728	0.032	22.25
Social Factor -> Social Correlation	0.894	0.894	0.012	73.88

[a]*T*-values are calculated by a bootstrapping routine with 500 samples. ***p*< .05.

In the further phase of examination, the correlations stated in the inner structural model are represented in the path coefficients between the dependent latent variable and its respective latent predicators. This evaluation is designed to determine in which extent the predicators would be able to contribute adequately in the variances of the dependent latent variables (See figure 4.13). For estimating the significance level in the inner model, a bootstrapping procedure was conducted by 500 subsamples in order to provide *T*-value as indicator for statistical significant values. Moreover, the values of effect size, confidence intervals, and including with R^2 values were all calculated for the path coefficient of each variable. Effect size value was calculated usingthe following formula: $f^2 = \frac{R^2 \text{ included } R^2 \text{ excluded}}{1 - R^2 \text{ included}}$

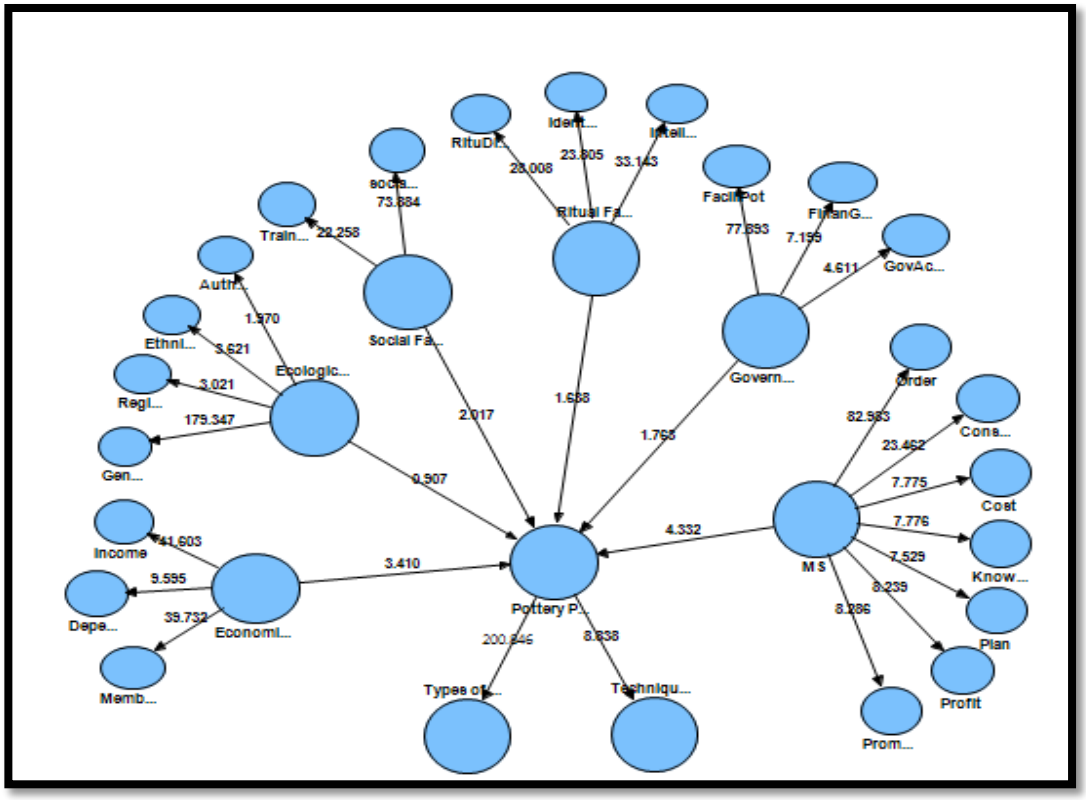

Figure 4.13: Shows Path Coefficient of Inner Structural Model.

In the presented inner model, it was tested predictably that Market Statue (MS) which in relation with pottery production was statistically predicated by seven predictor variables: order, consume, cost, knowledge, plan, profit, and promotion. Consequently, the results recorded in the variable of market status point out that the variance accounted by these seven mentioned manifested variables in addition to the relationship between market status and its measures suggest existing strong relationships that in turn strengthen significantly the direct association between market status and pottery production *F* (Beta (.218) *t*= 4.40., *P*>.05). In context, the most predictors affected by market status are order and consume. Order explains highly in approximately 80% from the concept of pottery production and affects significantly the market status (*t*= 85.66) then follows by consume that contributes around 70% of pottery production in compare to other predictors and indicates highly significant relation with the market status (*t*= 24.209) (See Table 4.19 for effect size). The effect size resulted of affect market status

on pottery production was considered a medium gauge which means obtaining affective impact on the pottery production (^2f= .20.51) (Henseler *et al*., 2009).

With the same pattern, the structural model hypothesizes that pottery production is also predicated by Government's initiative significantly, which in turn is defined by three predictors that are consecutively facilitating pottery, financial government, and government activity. These all-latent predictors have achieved the significant sign in the pathway of coefficient and reinforced the latent variable of pottery production by the highest predictor's score (facilitating potters). Yet, Government Initiative was associated significantly by the path coefficient of *F* (Beta (0.091), *t*= .1.79, *P*>.05). Facilitating potters is the reliable in association with pottery production that explains approximately 90% of the pottery production's concept. In other hand, the effect size could be viewed as a medium value at the structural model (^2f= .114.28).

Furthermore, Ecological Factor as a latent construct was represented in the proposed model insignificantly by four latent predictors' variables: Authentic, Ethnicity, Gender variables, and Regional difference. Though the relation between Ecological Factor and Pottery Production is statistically insignificant *F* (beta -.028, *t*= .102, *P*<.05), but, the predictor's variables were correlated significantly and highly with the latent variable of pottery production. However, noticeably, Gender Variable is the more measure able to explain the latent variable of pottery production statistically in significant value. Again, the effect size of Ecological Factor could be estimated as a large value with strong effect (^2f= .800).

Similarly, in current proposed inner model, Economic Factor as latent variable was predicated significantly in the relation with pottery production *F* (beta .174, *t*= 3.46, *P*>.05). The latent variable of Economic Factor was represented in the model by three significant latent predictor variables (Depending on Pottery, Income, and Member of Family). Further, Income was the highest predictor could explain the concept of

economic factor (beta .38.13, t = .788, P>.05) in compare to the two others, then followed by depending on Pottery (beta 371, t= 9.60, P>.05) and member of family respectively (beta .790, t= .37.12, P>.05). The value of effect size of Economic Factor could be viewed as a large, (^2f=.33.3) means strongly affected (Henseler *et al*., 2009).

Next, Ritual Factor was hypothesized in the model to be significant at 10%. Ritual Factor associated with pottery production by three latent predictors' variables, which are all shown significantly in their relation with their respective latent variable "Ritual Factor". The latent predictor variables are namely Intellectual Discrimination, Identical Discrimination, and finally Ritual Discrimination. The sign from the Intellectual Discrimination indicates for the more strength of path coefficient that contributed to strengthen the direct relationship between Ritual Factor and Pottery Production F (beta .070, t= 1.64, P>.05), comparing to the two others. Noticeably, the gauge of effect size in the Ritual Factor (200), which means having a medium affect on the procedure of pottery production.

Eventually, Social Factor was predicated by only two significant predictors' variables of three. The third latent predictor variable Interaction, which statistically obtained a very low value, was trimmed from the model in order to strength the bath coefficient. So the signs indicate that, the variance accounted by Social Correlation (Beta .894, t= 74.0, P>.05, R^2=.794) was correlated higher in significant and assisted to achieve significant correlation between pottery production and Social Factor. Contextually, the results of direct relation between Social Factor and Pottery Production show that, there was a significant relationship between Social Factor and Pottery Production,whichdetected in the structural model F (Beta .097, t= 2.06, P<.05). with concern to the extent of affect size of Social Factor, the results predict that Social Factor has a medium value of strong affect size on Pottery Production, as was recorded in the structural model (^2f= 114.28).

Table 4.19: Effect Size in the Proposed (Algorithm) Model.

Construct Excluded	R^2 excluded	f^2	Degree of Effect
Market Status	0.161	20.51	Medium
Government Initiative	0.193	114.28	Small
Economic Factor	0.176	33.3	Large
Ecological Factor	0.199	800	Large
Social Factor	0.193	114.28	Small
Ritual Factor	0.196	200	Medium

The further step of estimating the inner structural model was conducted to evaluate accurately the model predictive relevance and goodness of fit (GoF), utilizing a blindfolding procedure. This test of predictive relevance is occasionally considered additional assessment for fitting the model in PLS analysis (Stone, 1974; Geisser, 1975). Concerning to the criterion of Stone and Geisser that is constituted of two criteria i.e., cv-communality and cv-redundancy the criterion of cv-communality was preferred by a set of researchers (Karim, 2008; Kaiser & Voytek, 1983) to estimate the predictive relevance. It is proved that, the cv-communality in its-self assesses the capacity of the path model in order to discriminate the strength-manifested variable from their own latent variable. Thus, it is viewed as indicator for the capacity or quality of the measurement model. While, the cv-redundancy estimates the capacity of the model to predict the endogenous manifest variables using the latent variables, and it serves as indicator for the capacity or quality of structural model (Tenenhaus *et al*., 2005). Therefore, the values of cv-communality and cv-redundancy marked greater than zero point out predictive relevance, however the higher values are also shown as a more predictive relevance (Chin, 1998; Morse & Feshbach, 1953; Tenenhaus *et al*., 2005). The cv-communality value of Pottery production that was selected in the test of (GoF) as endogenous latent variable was greater than zero (GoF=.425), considering as large Good-of-Fit value. The actual valued impact of the cv-communality was embedded in q^2 value for the purpose of determining whether the obtained value of predictive relevance measured for dependent latent variable was small (≥ .02), medium (≥ .15), or large (≥

.35) (Henseler *et al*., 2009). Alternatively, by other reference, Wetzel and his colleagues (2009) have demonstrated that, goodness of fit standards is classified as weak (≥.10), moderate (≥.26), or substantial fit (≥.36). In the current study researcher has used Henseler's cut off standard points. Thus, the proposed model here was conducted using goodness-of-fit [GoF] in order to estimate the nature and the Goodness-of-Fit's type which is distinctively displayed in only endogenous variables.

The dependent latent variable was measured along with its respective components. Thus, the main construct "Pottery production" demonstrated large value of predictive relevance in terms of cv-communality. However, the value of cv-redundancy indicates a weak predictive relevance (GoF=.094); considering equal to one. Regarding to its respective latent variable, Techniques of production, and Types of Pottery both in terms of cv-communality are shown greater than zero. Accordingly, types of pottery production demonstrated a substantial value (GoF=.406); and techniques of pottery production demonstrated a large fit-value of predictive relevance (GoF=.421). However, concerning to cv-redundancy value, techniques of pottery production scored equal value to one (GoF=.099), which is recognized a weak predictive fit. In contrast, types of pottery is labelled a large predictive relevance (GoF=. 477) when was calculated for cv-redundancy value. In conclusion, in our current model, a substantial fitting is saliently noticed through the dependent variable of Pottery production (GoF=.425) (See Table 4.20 for goodness of fit).

Table 4.20: Goodness of Fit Shown By Communality and Redundancy Results.

Endogenous constructs	**R^2**	**Communality**	**cv-communality**	**Redundancy**	**cv-redundancy**
Pottery Production	0.200	0.512	0.425	0.050	0.094
Types of Products	0.950	0.503	0.406	0.478	0.477
Techniques of Products	0.191	0.514	0.421	0.088	0.099

4.10.4 Exploratory of Predictive Analyses

This section illustrates the total findings of the exploratory analyses by providing illustrative discussion of the findings. Accordingly, correlation and affecting of combination of factors on the procedure of pottery production was calculated to predict the more affective relationship. In the current study, 30% of percentage in the procedure of pottery production could illustrate the extent of strength affect of each factor on the process of pottery production.

As was clarified in the inner structural model, results emphasise the strong relation which is represented in a highly significant effect of influential factor of Market Status on the procedure of Pottery Production (beta= 4.33, M= 215, *P*>.05). The engine influences, which strengthen market status, were represented in a set of variables such as order, consume, cost, knowledge, plan, profit, and promotion in which these are all correlated significantly with market status factor. Statistically market status has affected the pottery production more than economic and social factor, ritual factor, and government initiative. Therefore, the first sub-hypothesis of that, the factor of market status is assumed to have an impact on the pottery production, which contains types and techniques of pottery, was supported here. Economic Factor is predicted to correlate significantly in a quite high value with Pottery Production (beta= 3.41, M= 0.175 *P*>.05) than Social Factor.

Social Factor, therefore, is predicted a quite high significant value in its correlation with the procedure of pottery production (beta= 2.01, M= 0.097, *P*>0.05). While Government Initiative's Factor correlates with the process of pottery production in the significant value of (beta=1.76, M= 0.095, *P*>0.05). Thus, the sub-hypothesis in the case of government initiative, which is "the factor of government's initiative is assumed to have an impact on the pottery production that contains types and techniques of pottery", was significantly supported here. Moreover, the relationship between Ritual

Factor and Pottery Production was supported in a significant value of 10% (beta= 1.68, M= 0.072, *P*>0.05). Hence such result meets the sub-hypothesis of that there is significant relationship between Ritual Factor and Pottery Production.

In contrast, the Ecological Factor did not correlate significantly in its affect on the process of pottery production, which did not give any sense in the pathway of significance (beta = 0.907, M= -0.042, *P*<0.05). Although all the engine predictors' variables that are loaded in the factor of Ecology are actually displayed in significant values such as Authenticity, Ethnicity, Gender Variable, and Regional Difference.

In other hand, a set of influences are reflected upon the constituent of dependent latent variables such as types of pottery, and techniques of production (See Figure 4.14). With concern the relation associating pottery productonto the two components of techniques of pottery production and types of pottery. The techniques of pottery production are determined to be predicted in high significant value when compare it to the other component of types of Pottery Production (beta= 8.83, M= 0.439, *P*>.05). While, Types of Pottery are explored to be correlated with the process of pottery production in a quite low significant value (beta = 200.48, M= 0.974, *P*>.05).

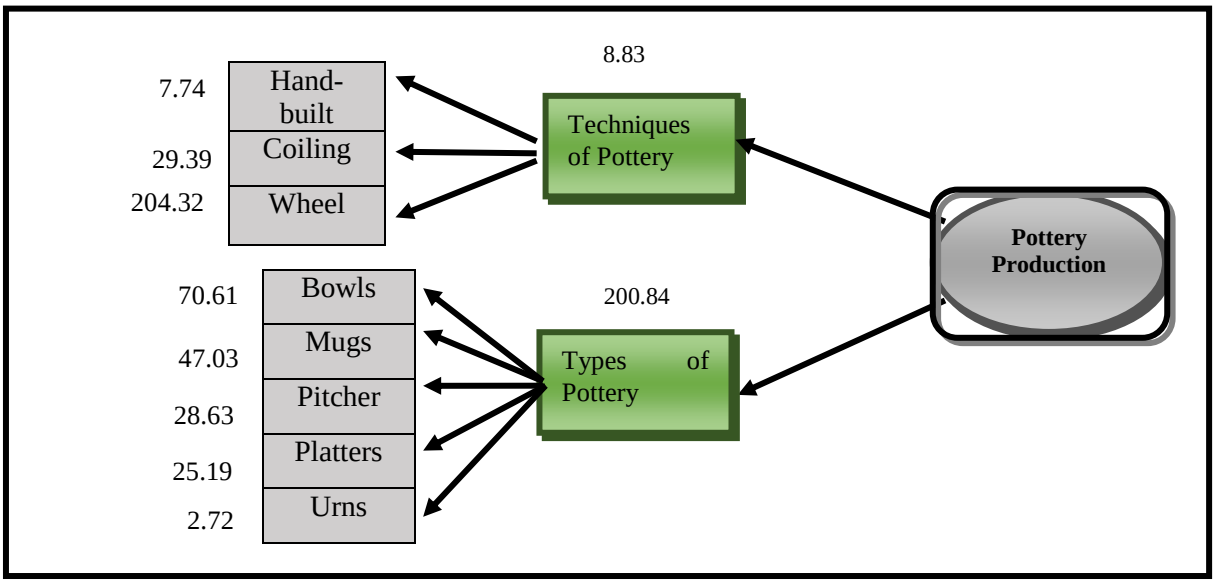

Figure 4.14: Dependent Variable of Pottery Production- Containing Two Parameters: Types of Pottery & Techniques of Pottery- Along with Their Indicators.

4.11 Discussion of Finding

The current section of our study handles concentrative discussion and rational interpretation for every objective's findings shown statistically in previous sections. More to be taken in concern, such section is designed to illustrate the causal in the significance and/or insignificance relationships of different kinds of categorical variables. Likewise, ineffective and often highly effective correlations, besides, integral association between all variables are demonstrated in this section.

Additionally, results obtained by previous studies are integrated with our discovered results, along with reflection of environmental, cultural, religious affects on the potters' surrounds would be scientifically discussed.

4.11.1 Overall Model Evaluation

The fundamental idea in current research built upon the conceptual model, thus, the last objective of present research is drawn to investigate the most affective factors among a set of predictive factors are assumed to influence the process of pottery production. Thus, this section addresses the findings of presented suggestions that aregenerated from the operational model shown and discussed precisely in the chapter four, particularly in the section of analysis.

4.11.2 Pottery Production and the Demographic Aspects of Potters

Interest themes of pottery production, which are expressed by anthropology, ethnographers, and ethnologists, have been addressedin such disciplines as social phenomena. Again, social phenomenon in the pottery production conveys several theoretical persuasions of potters. Thus, the specific themes in the path of manufacturing pottery was discussed in symbolic or functional way to highlight the outstanding aspects of gender, regional differentiation, and marital status of potters.

4.11.2.1 The Variance of Types and Techniques in Pottery Production According to Different Gender Groups of Potters (Male and Female)

The results obtained by the test of T.Test provedthat, different physical nature of the potters such as men or women affect the nature of pottery production. It is therefore obvious that we strive to figure out the differentiations that might be explored through the fundamental aspects of sex (male and female) among the groups of potters with considering the division of labour conducted according to the potters' sexes.

Referring to the results shown in Figure 4.15, the highest mean value in female group among the pottery types is at 4.1855 of Vases type, while the smallest value is at 2.991 of Urns type. However in the male group, the highest mean value of pottery types is in Mugs at 4.1434 and the smallest is in House furniture at 3.01. Platters, Bowls, Pitcher, Pots, Vessel, Vases and House furniture of pottery types are made by female potters more than male potters, but Mugs and Urns types are produced by male potters more than female potters.

With *t*-values of difference between female and male groups of potters, it could find affective significant that could influence several types of pottery production. Therefore, the objects of Urns, and House Furniture of pottery types have affective significant for displaying the differences between male and female groups of potters. However, the difference in the gender of potters diversifies from female potters to male. As shown in figure 6, there is a negative affective significant influencing in Urns type with *t*-value of -3.159 and positive affective significant influencing in house furniture of pottery types with *t*-value of 3.241. Urn type is made by male potters at mean of 3.1828 more than female which are only 2.991. Exceptionally, female potters at mean of 3.29 in respect to house furniture type are higher than male potters of 3.01. Urns type of pottery is very strong presumption against null hypothesis with 10% and house furniture with 5% is considered strong presumption against null hypothesis. Therefore, the pottery

types of urns and house furniture support the hypothesis with existence apparent mean difference among potters' groups of gender.

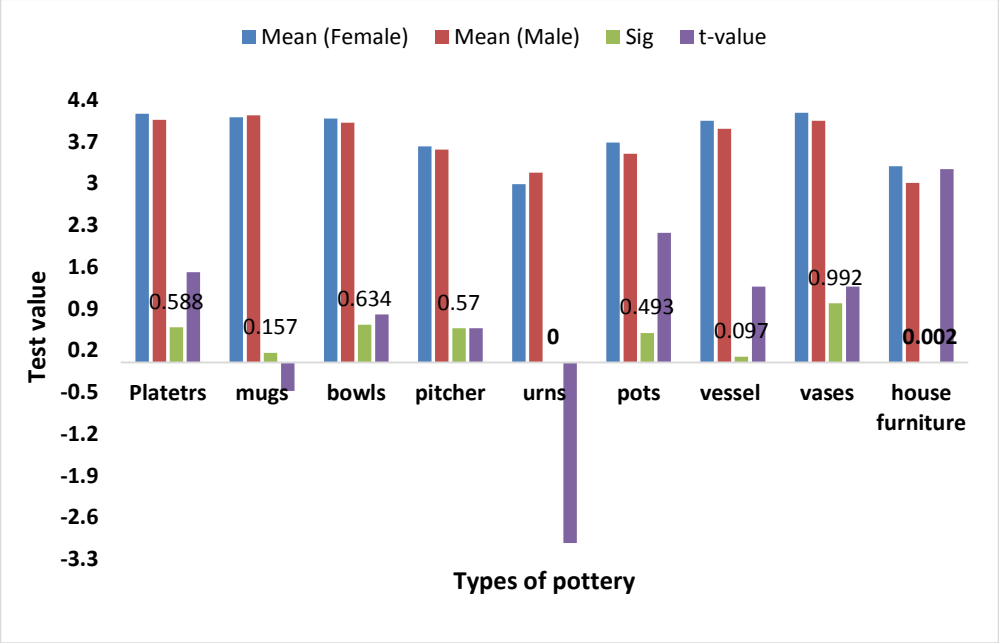

Figure 4.15: The Comparison Between Groups of Female and Male Based on Types of Pottery in T-Test Results.

As shown in Figure 4.16, the highest mean value in female and male groups in terms of pottery techniques is of coiling, while the smallest value is casting technique. It is indicated that, the following techniques of pottery: casting, and wheel, have negative insignificant variances while there are positive insignificant variances in hand-built and coiling that could be observed among the potters' groups of male and female. There is a positive evidence of the significant variances that is noticed only in the performance of Machine equipment technique using in pottery production among the potters groups of male and female with t-value of 0.844. In this technique, Female potters at mean of 1.94 are produced more than male potters at mean of 1.84. Machine equipment technique of pottery is strong presumption against null hypothesis with 5%. Yet, the significant value in the levene's test reflects the equal value or lesser than $P<.05$ as it is standardized by Pallant (2010), and Hair *et al*. (2006).

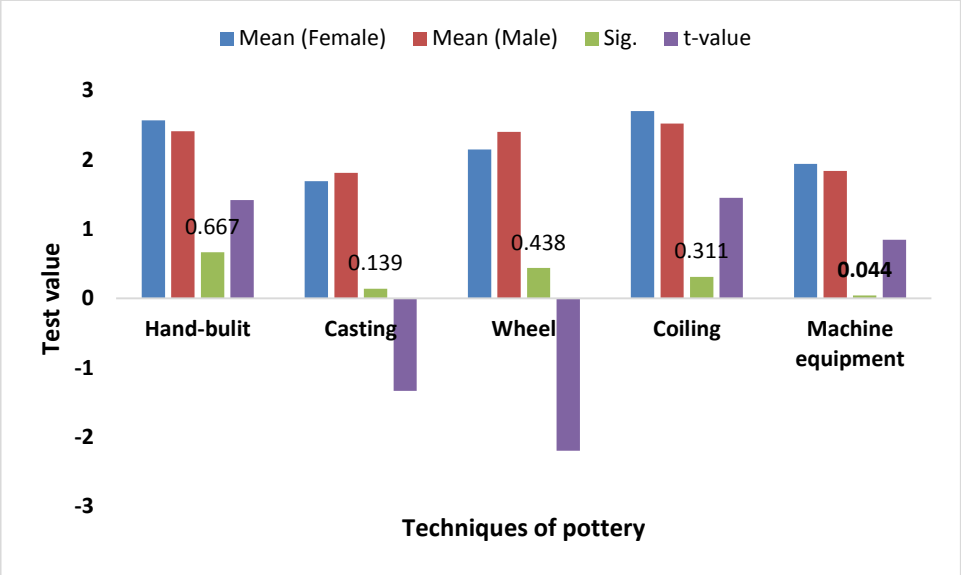

Figure 4.16: The Comparison Between Groups of Female and Male Based on Techniques of Pottery in T-Test Results.

From other side, the significant types of pottery are proven through the results to be produced frequently by the machine equipment. Yet, the group of female potters are more interested to use machine equipment in order to produce frequently the types of urn, vessel, and house furniture; while, male potters are quite little interested to utilize the machine equipment in their products. It is might be interpreted as the female potters are characterised as more curious to highlight the precision at the detailed motifs in their products which can be conducted evidently by using machine equipment. Hence, it is wonderfully appeared that female's products are more illustrative of residential location and the ritual and social dimensions than male's products. Blitz (1993) emphasizes that the vessels that are served the food are manufactured to highlight the varied dimensions of social, political, and the status of residency.

Therefore, the mean difference between female and male groups, which are involving in the urns and house furniture types, and the machine equipment technique, confirms assumed hypothesis of that "Selected types and techniques of pottery vary significantly according to different categories of gender which affect the pottery production".

Furthermore, according to the results of the present study and based on the previous studies related to the field of pottery, the critical points in the results have been declared predictably in the slight differences of percentage between men and women potters. Consequently, it demonstrates that different roles of men and women are observed in most Malay Peninsula pottery products. In accordance with the findings, Foster (1959) has denoted that, hand-made pottery, which still exists in some primitive societies, is the sole work sets for women potters. Moreover, Hibbert (1998) who has conducted a research for Mexico Pottery; he stresses that some roles are assigned physically for men only. He has concluded that, generally, wheel technique is more compatible for men potters. Such results confirm that, men and women are used to exchange the roles between each other alternatively. On the other hand, Kramer (1979) has explained that, in some societies, women hold a salient role in making pottery even though women are prohibited from touching the wheel, but they could still be able to participate in other stages of the production process.

Based on our findings, we had proposed a structural model for determining the influential proprieties of gender Malaysian potters which has impact on their own products. Current study attempts to identify the nature of correlation among certain selected types of pottery; as well, recognizes the most popular techniques used in Malaysian pottery production. Moreover, these types of variables have been precisely selected to reflect the scope of differences existing in the Malaysian pottery production in terms of the gender attributes among the local groups of potters. On other hand, it could promote a new positive impact on the pottery industry in Malaysia, and can control on the ratio of artificial manufacturing. Furthermore, the present research could be also utilized as a guide for other related studies in the future.

4.11.2.2 The Variance of Types and Techniques in Pottery Production According to Different Marital Status Groups of Potters (Single and Married)

As shown in figure 4.17, the highest mean value in single group is in vases type of 4.21 among types of pottery; however, the smallest mean value is 3.25 of house furniture. Likewise, the highest mean value in the married group is 4.14 of mugs type while the smallest mean value is 3.11 of house furniture of pottery types. Due to the mean results shown, several types of pottery are platters, pots, vessel, vases, and house furniture that made by single group more than married group. While in mugs, bowls, pitcher, and urns of pottery types are made by married group more than single group.

With *t*-values of variance among single and married groups of potters shown in the same figure, it found only one affective significant that influence in mugs type of pottery, while it has a negative significant of t-value of -0.9236. Likewise, mugs type of pottery is a 5% strong presumption against null hypothesis. Yet, married group of potters respected to mugs type are higher than single groups of potters and pottery types of mugs supports the hypothesis with existence apparent mean difference among the groups of marital status.

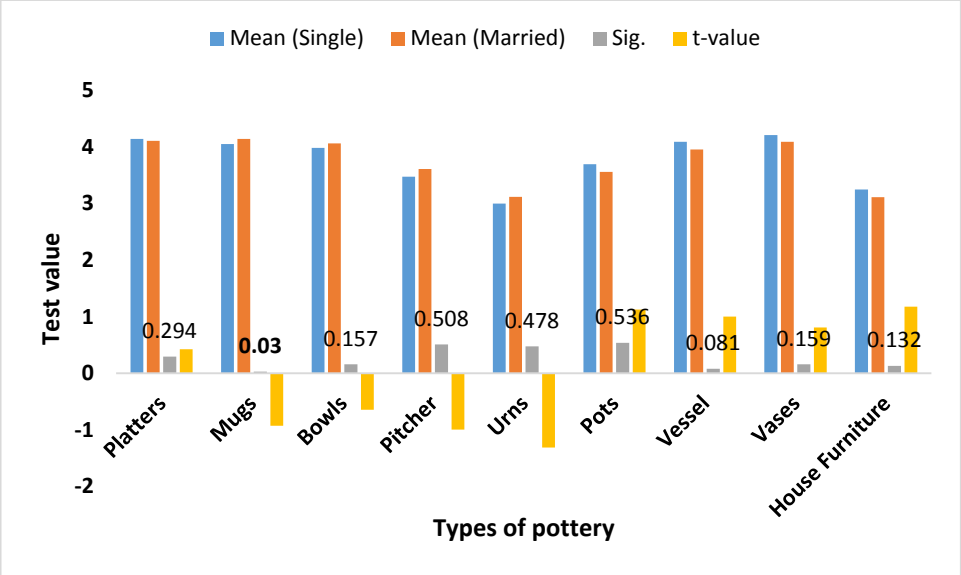

Figure 4.17: The Comparison between Groups of Single and Married with Types of Pottery in T-Test Results.

Figure 4.18 shows the comparison between groups of single and married with techniques of pottery based on T-test results. The highest mean value of single group is 2.47 of coiling technique while the smallest mean value is 1.87 of machine equipment. As well, the highest mean value of married group is 2.62 of coiling and the smallest is 1.81 of casting technique of pottery. It is indicated that the following techniques of pottery: handbuilt, casting, wheel, and coiling have negative significant differences that can be observed among potters' group of single and married. In these techniques of pottery, married potters are produced more than single potters group. Hand-built, casting, and coiling techniques of pottery are very strong presumption against null hypothesis with 10 % and wheel technique has strong presumption with 5% against null hypothsis.

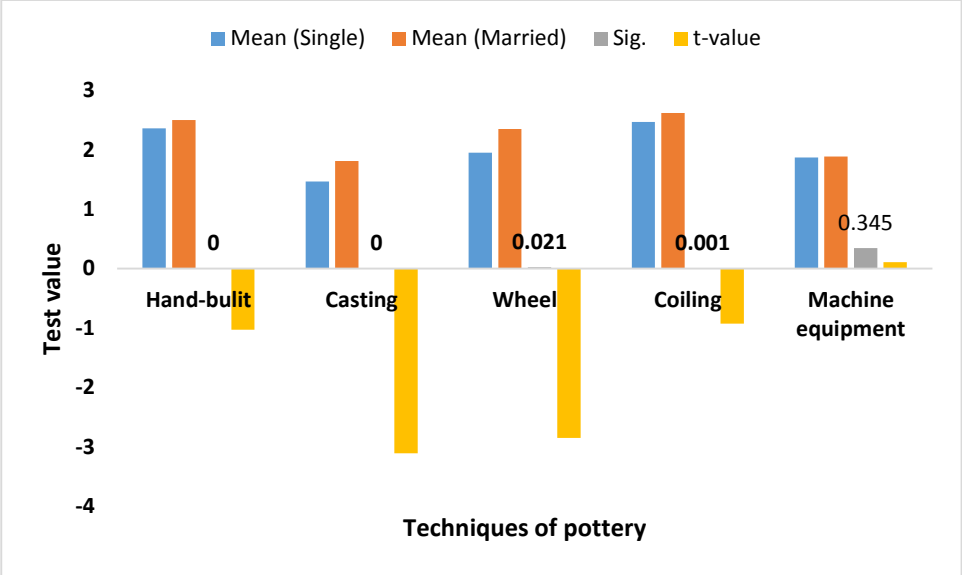

Figure 4.18: The Comparison between Groups of Single and Married with Techniques of Pottery in T-Test Results.

With regards to the ratio of difference among the two marital groups (single and married) of potters, this study emphasizes that the married groups of potters are highly tended to produce mugs and vessels by using the techniques of casting, wheel, coiling, and hand-built more than the single groups of potters. It might return to the responsibility of nurturing the family with appropriate financial support that is required manufacturing the most kinds of pottery, which are promoted in the daily market place such as utilitarian and decorated products of pottery.

Based on the results, the rationale of increasing married-potters' activity in pottery profession might turn to promoting the potteries which are made for utilitarian purpose. It is thought that, these kinds of potteries, which are produced based on utilitarian purpose, are the best choice for the married potters to secure the daily-life requirements, and the responsibility of caring their family.

By other interpretation inspired by (Freed & Freed, 1963), it is obvious that married potters are occasionally active in the field of pottery due to pottery production in most cases is established by all members of potters' family (wife, sons). It is habitually confirmed in some rural villages, where the wife and son have a significant

role of assemblage the clay from scattered spots and gathering the dried dung used for fuel in the traditional kilns, which might contribute in enhancing the process of pottery production. Thus, joint and mutual roles between potters and their family assist potters to multiply their outputs. On the contrary, the single potters will not be motivated to contribute in all parts of the production process.

4.11.2.3 The Variance of Types and Techniques in the Pottery Production According to Different Age Groups of Potters

The results of multiple groups' differences-ANOVA test-reported in the tables 4.16 and 4.17 to support the hypothesis of that "The variances among different groups of potters in terms of age might stimulate diversification in pottery production"Thus, Different types and techniques of pottery products are thought to differentiate according to variety of potters' aspects.

Figure 4.19 shows the ANOVA test in terms of types of pottery in age's groups. The highest value of standard derivation is 1.16 of vessel type and the smallest value is 0.71 of urns type, which the values indicate the impact of the age on the level of optimism. There is statistically significant effect in platters, mugs, bowls, pitcher, urns, and pots of pottery types. The highest value of $F(2, 497)$ is 13.63 of mugs types which is a significant main effect for age $P=0.000$, whereas the smallest value of variance significant is $F(2, 497)= 3.099$; $P=0.046$. Thus, when the value of $F(2, 497)$ increase, the percentage of the variance significant become large.

Figure 4.20 shows the comparison using Tukey HSD test indicated that the mean score for the above 40 age group based on types of pottery shows significantly different from 18-25 group at the mean difference of 0.5 in mugs type. The above 40 age group is also significant from 26-40 age group at the mean difference at 0.701 and 0.553 in mugs and bowls types of pottery respectively, which the highest mean difference significant is

0.701 of mugs type. The 18-25 age groupsare also significantly different from 26-40 age groups at the smallest mean difference value of 0.383 in pitcher type. As well, the 18-25 from above 40 age group is variance significant in urns type at the mean difference of 0.4. Therefore, emphasize that all types of pottery are produced frequently by different age groups of potters except vessels, vases, and house furniture. Rationally, the types of pottery (vessel, vases, and house furniture) require high skills and efforts. Additionally, these types have little opportunities to be evaluated as valued products.

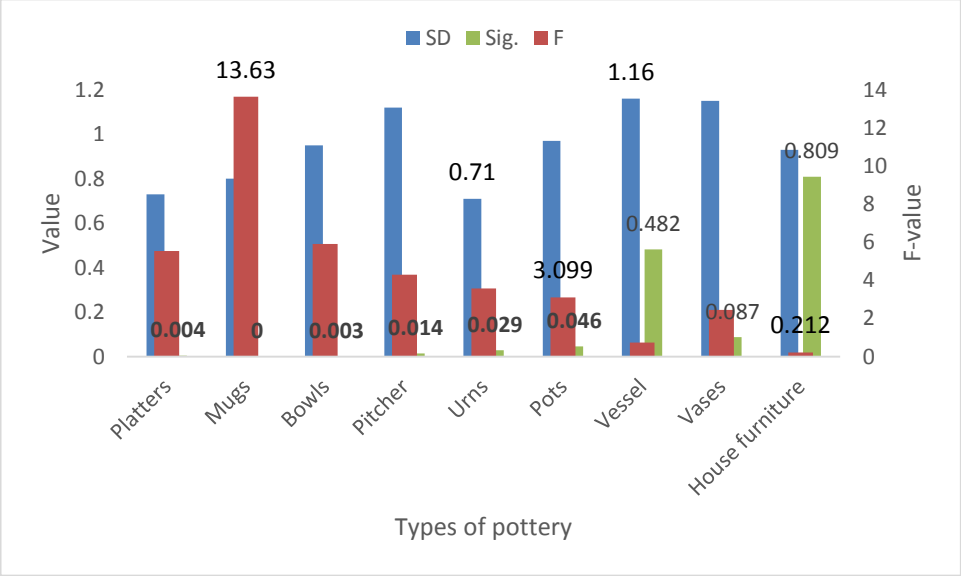

Figure 4.19: ANOVA Test in Terms of Types of Pottery in Age's Groups.

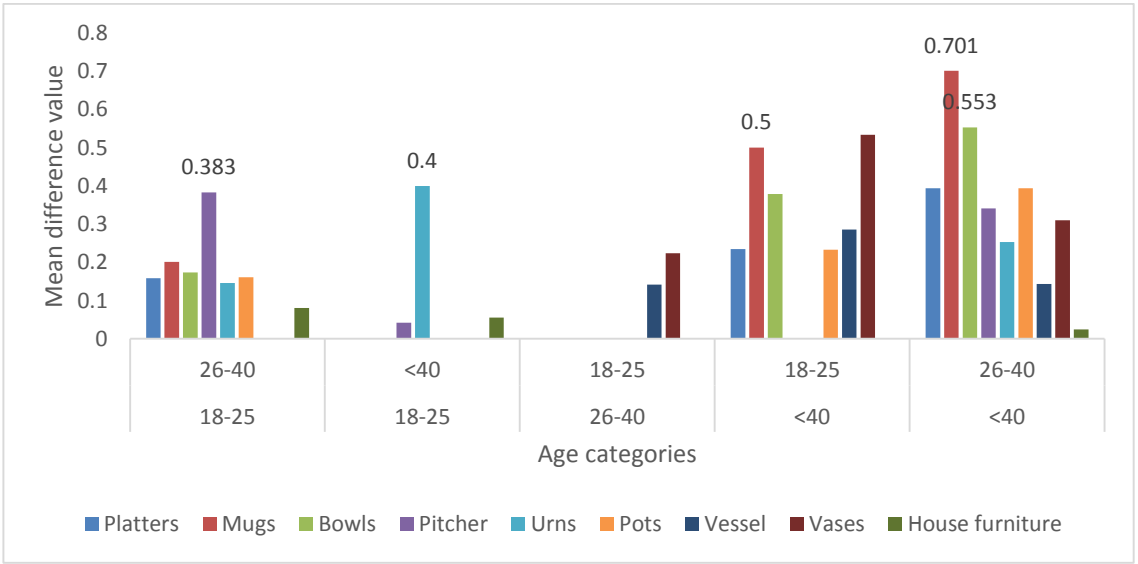

Figure 4.20: The Comparison between Groups of Ages Based on Types of Pottery in Post-Hoc Test Results.

Figure 4.21 shows the ANOVA test in age's groups based on techniques of pottery, which the standard derivation is indicated the impact of the age in techniques of pottery. In this test, the highest value of standard derivation is in coiling techniques of 1.383, while the smallest value is 1.048 of casting technique. There is statistically significant effect based on pottery techniques in casting, wheel, and machine equipment. The highest value variance significant of $F(2, 497)$, $P=0.000$ is 9.71 of wheel technique, however the smallest value of $F(2, 497)$ is 1. 3.099 at $P=0.046$. Thus, the variance significant in wheel technique is higher than others techniques.

Figure 4.22 shows the mean score based on techniques of pottery for age categories, which the above 40 age group is significantly different from 18-25 group at the mean difference of 0.635, 1.017, and 1.059 in casting, wheel, and machine equipment techniques respectively of pottery. The above 40 age group in machine equipment shows also variance significant from 26-40 age group at the mean difference of 0.671. The smallest significant mean difference value is 0.625 in wheel technique in the 26-40 age of group from 18-25 age group, which the highest value is 1.059 in machine equipment technique.

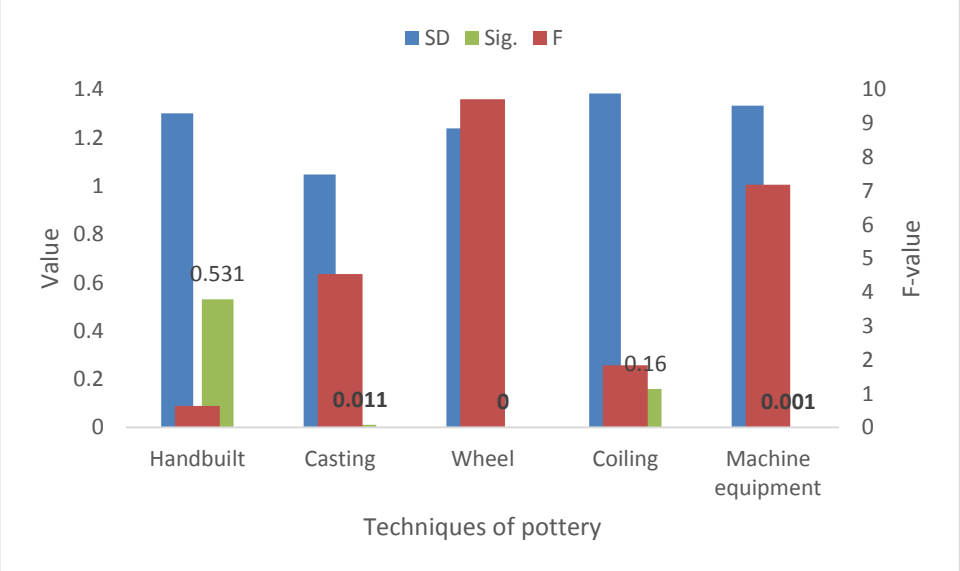

Figure 4.21: ANOVA Test in Terms of Techniques of Pottery in Ages Groups.

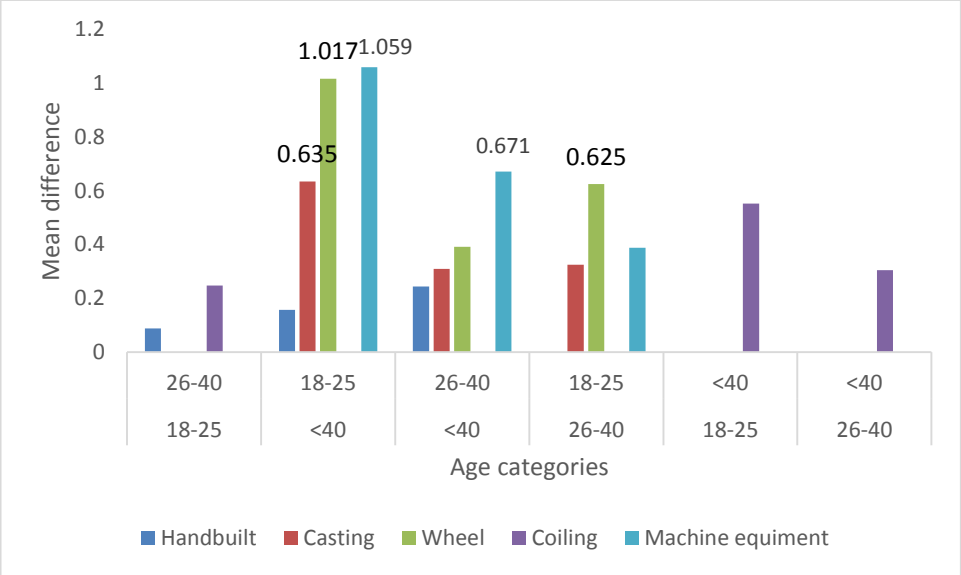

Figure 4.22: The Comparison between Groups of Ages Based on Techniques of Pottery in Post-Hoc Test Results.

It is noted that, the age group of 26-40 is the highest group in terms of producing various types of pottery. However, this age group are motivated to produce most utilitarian types of pottery using mostly the techniques of wheel and casting in their products made. Refer to the point, it points out the fact that, in the middle age of potters' groups, potter strives to procurement the pottery products, which insure large income for them with utilizing modern techniques such as wheel and casting.

4.11.2.4 The Variance of Types and Techniques in the Pottery Production According to Different Racial Groups of Potters

Figure 4.23 shows the ANOVA test in terms of types of pottery in racial groups. The value of standard derivation indicates the impact of the racial groups in term of types of pottery. There is variance significant effect with P=0.000 in mugs, bowls, pitcher, vessel, and vases of pottery types. The highest significant value of F(2, 497) is 12.485 of vases type, while the smallest significant value is 7.829 of pitcher type. Thus, when the value of F(2, 497) increase, the difference significant increase.

Results show in test of different racial groups of potters in Figure 4.24. It indicates that the mean score for the Malay group shows significantly different from Chinese group in mugs, bowls, and pitcher types of pottery at the mean difference values of 0.335, 0.402, and 0.434 respectively and from Indian group at the smallest mean difference value of 0.302 in mugs type. In vessel and vases types, Chinese group is also showen variance significant from Malay group at the main difference of 0.35 and 0.395 respectively, and at the same types, Indian group is significant from Malay group at the main difference of 0.522 and 0.692. The highest value of main difference is in vases group of 0.692.

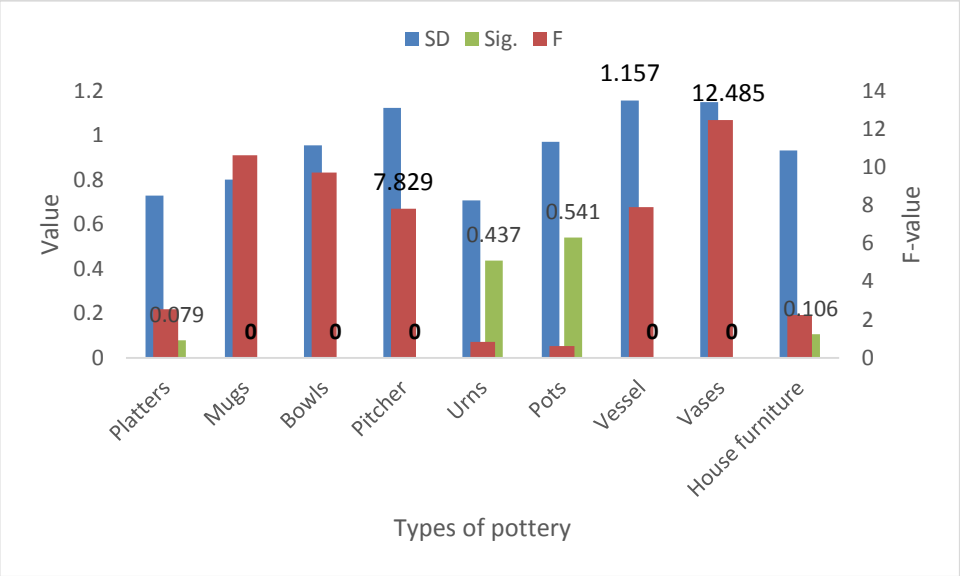

Figure 4.23: ANOVA Test In Terms of Types of Pottery in Racial Groups.

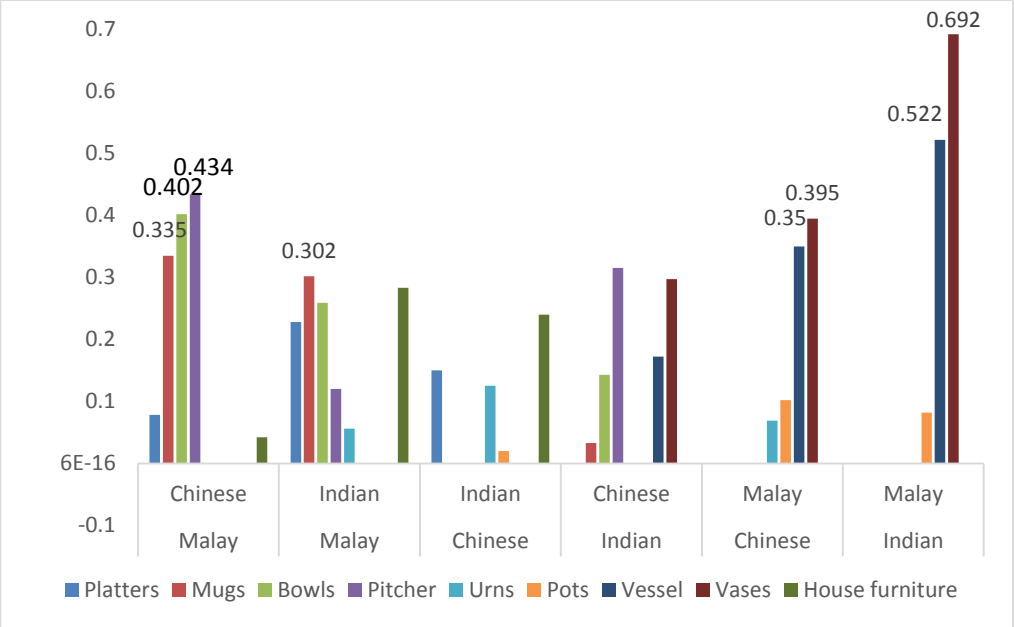

Figure 4.24: The Comparison between Groups of Racial Based on Types of Pottery in Post-Hoc Test Results.

Figure 4.25 shows the ANOVA test in racial groups in techniques of pottery, which the standard derivation is indicated the impact of the racial groups of potters in term of techniques of pottery. There is statistically significant effect based on techniques of pottery in casting (P=0.014), wheel (P=0.000), and machine equipment (P=0.003). The highest value variance significant of F(2, 497) is 7.992 of wheel technique, while the smallest value of F(2, 497) is 4.285. Thus, the variance significant in wheel technique is also higher than others techniques.

Figure 4.26 shows the mean score based on techniques of pottery for racial groups, which the Chinese group is variance significant from Malay group at the mean difference of 0.46, and 0.435 in wheel, and machine equipment techniques respectively of pottery. The Indian group in casting technique shows also significantly different from Malay group at the mean difference of 0.412.

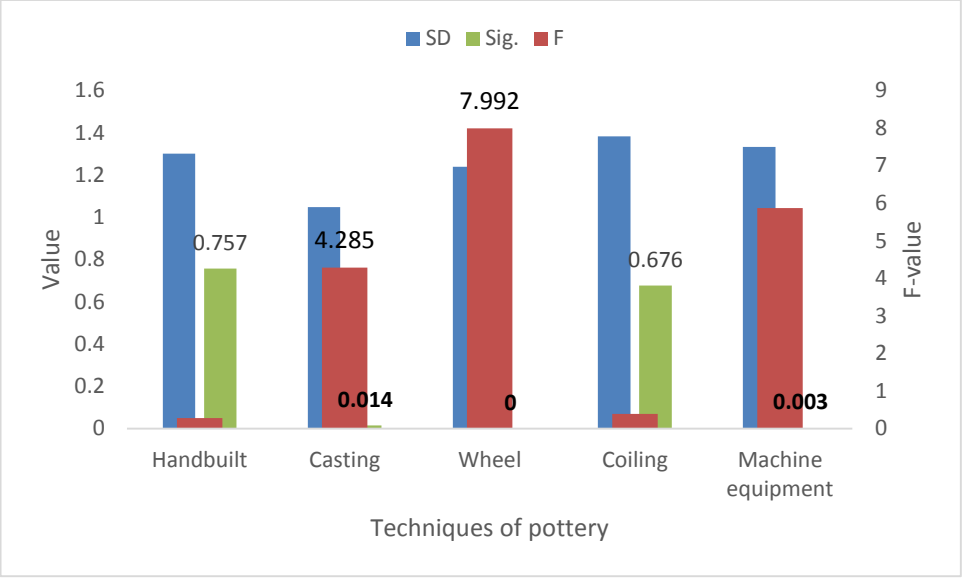

Figure 4.25: ANOVA Test in Terms of Techniques of Pottery in Racial Groups.

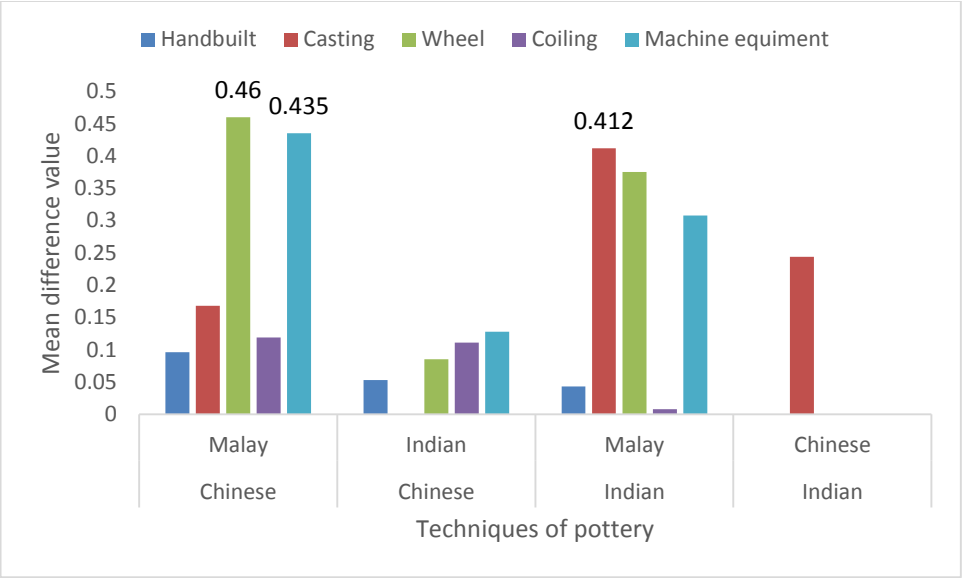

Figure 4.26: The Comparison between Groups of Racial Based on Techniques of Pottery in Post-Hoc Test Results.

Results show in test of different racial groups of potters that the following types of pottery: mugs, bowls, pitchers, vessels, and vases are all reported significantly in the racial groups of potters. Yet, this study reveals that, there is difference between the racial groups of Malay from Chinese and Malay from Indian in terms of producing vase, mug, bowl, vessel, and pitcher. However, racial group of Malay from Chinese is considered highest than the group of Malay from Indian. With concern to the techniques

used, the groups of Malay with Chinese and Malay with Indian are highly motivated to use the techniques of casting, wheel, and machine equipment in their products. The rational interpretation of producing certain kinds of mugs, bowls, pitchers, vessels, and vases mostly by the groups of Malay from Chinese and Malay from Indian is based on compatibility between the nature of mugs, bowls, pitchers, vessels, and vases and techniques of casting, wheel, and machine equipment. Occasionally, mugs and bowls required multiple quantities to be produced using casting technique; however, pitcher and vessels are often made by wheel technique for getting fine shapes. As well, big vases are habitually produced by machine equipment techniques for decorating houses. Yet, these types and compatible techniques are famed widely into Malay and Chinese cultures.

4.11.2.5 The Variance of Types and Techniques in the Pottery Production According to Different Career Affiliation Groups of Potters

The ANOVA test shown in figure 4.27 in term of types of pottery in career affiliation groups. There is statistically significant effect in types of mugs, bowls, pitcher, and urns. Due to the variance significant value of $F(2, 497)$, the highest value is 7.35 of urns type at $P=0.001$, whereas the smallest value is= 3.415 of mugs at $P=0.034$. Thus, When the value of the significant is decreased to nearly to 0, the value of $F(2, 497)$ increase.

Figure 4.28 shows the comparison using Tukey HSD test based on types of pottery indicated that the mean score for the private company/craft shop group shows significantly different from craft factory group at the mean difference of 0.247, 0.357, and 0.416 in mugs, bowls, and pitcher respectively. As well, in urns type, the craft factory group has variance significant from the craft complex group at eh mean difference of 0.274. Thus, the highest significant value of mean difference is in bowls type and the smallest is in mugs type.

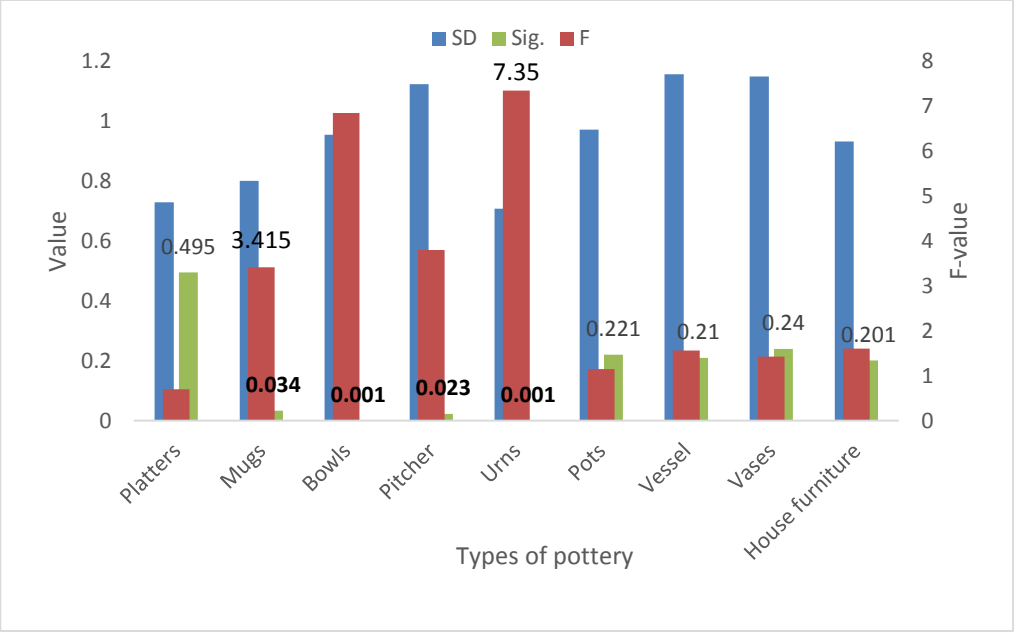

Figure 4.27: ANOVA Test in Terms of Types of Pottery in Career Affiliation Groups.

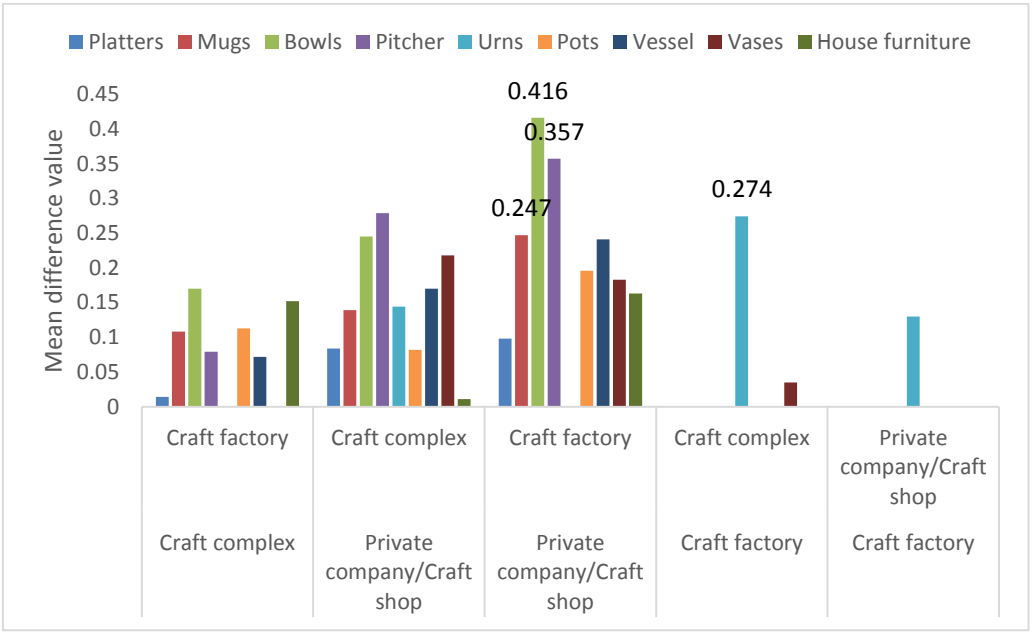

Figure 4.28: The Comparison between Groups of Career Affiliation Based on Types of Pottery in Post-Hoc Test Results.

Referring to the ANOVA test in racial groups in techniques of pottery in figure 4.29, which the standard derivation is indicated the impact of the career affiliation of group potters in term of techniques of pottery. There are no statistically significant effect based on techniques of pottery. Figure 4.30 shows the mean score based on techniques of pottery for career affiliation groups, which there is no variance significant

in terms of techniques of pottery. These categories of potters groups have failed to support the hypothesis that is posted as “The differences among groups of potters in terms of career affiliation might lead to diversifying types and techniques of pottery production”. By other meaning, results emphasize that, the career affiliation groups of potters have no significant variances. Therefore, it can influence to diversify cetain techniques of pottery.

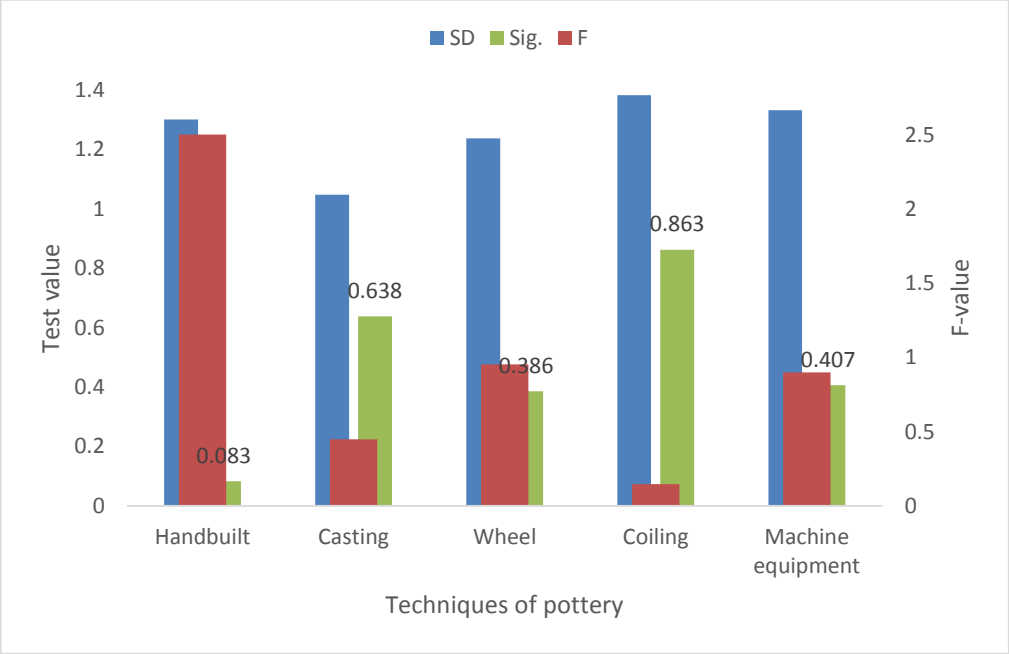

Figure 4.29: ANOVA Test in Terms of Techniques of Pottery in Career Affiliation Groups.

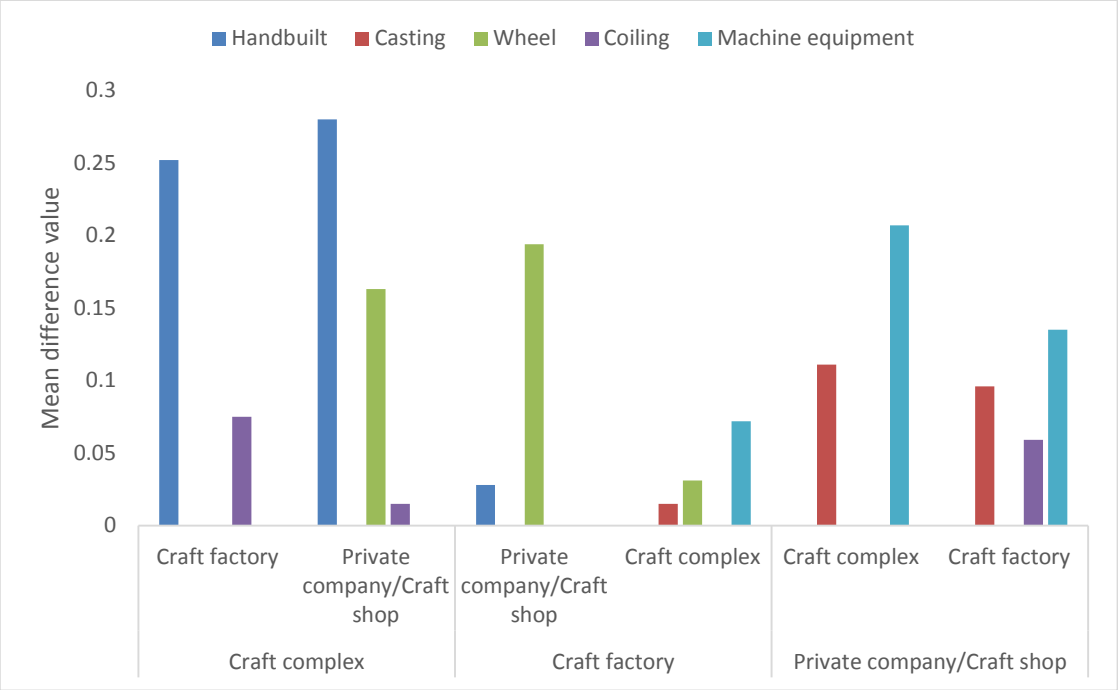

Figure 4.30: The Comparison between Groups of Career Affiliation Based on Techniques of Pottery in Post-Hoc Test Results.

This study indicate that, the significant variation noticed among the types of Mugs, Bowls, Pitcher, and Urns are mostly produced by two categorical groups of potters, craft factory and private company. These groups are known the most active groups in terms of producing some utilitarian types of pottery such as mugs, bowls, urns, and pitchers. Results of current study proved that, the mentioned significant types of pottery are produced using all techniques of production equally. Moreover craft complex also differentiates significantly when combine with the potters' group of craft company. Such results proved that, craft factors are the main sources for generation of utilitarian products in massive quantities to be distributed on the other sides of the private companies. Craft factors fall under semi-governmental sector; whereas, private companies/individual shops are fully private sectors. Non-government sectors such as craft factors and/or private companies typically concentrate on the profit in increasing quantities in pottery production, more than quality aspects in pottery. However, craft

complex falls fully under governmental sector and concentrates on the quality of production.

4.11.2.6 The Variance of Types and Techniques in the Pottery Production According to Different Regional Groups of Potters

The ANOVA test shown in figure 4.31 in term of types of pottery in regional differentiation groups. There is statistically significant effect in types of platters, mugs, bowls, pitcher, and urns. Due to the variance significant value of $F(6, 493)$, the highest types of potter is bowls of 7.891 at P=0.000, however the smallest value is 3.496 of vases at P=0.002. Thus, When the value of the significant is decreased to nearly to 0, the value of $F(6, 493)$ increase more.

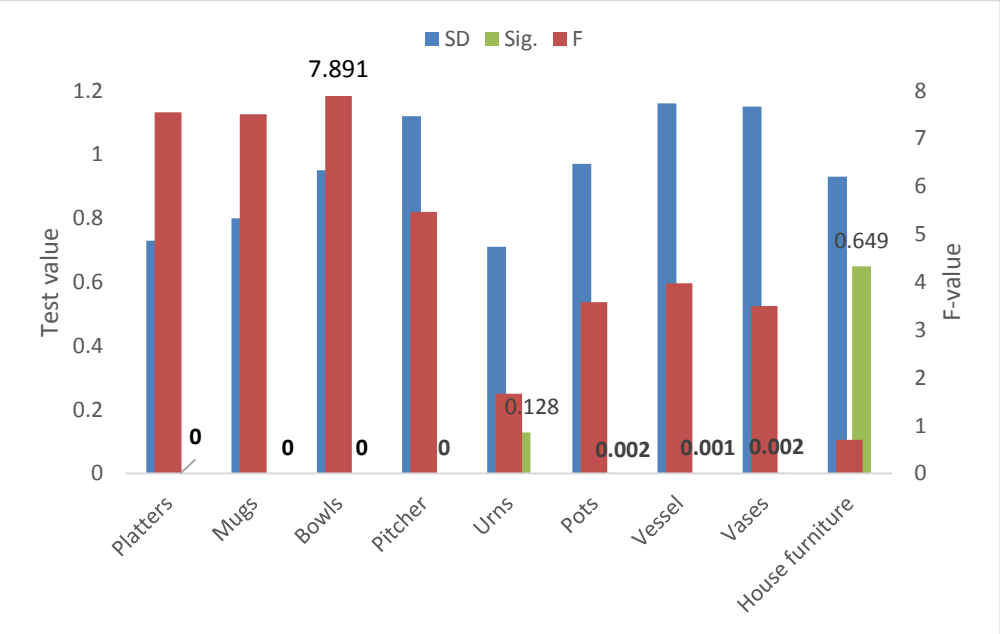

Figure 4.31: ANOVA Test in Terms of Types of Pottery in Different Regional Groups.

Figure 4.32 shows the comparison using Post-hoc test based on types of pottery indicated that the mean score for the Perak group shows significantly different from Kedah and Kuala Lumpur in platter, and bowls types. Yet, Johor group has variance significant from Kuala Lumpur group in mugs, bowls, and pitcher types. As well, the group of Melaka in producing platters type is shown variance significant from the

groups of Johor, Penang, Kedah, and Kuala Lumpur; additionally the group of Negeri Sembilan shows significant from Kedah and Kuala Lumpur. The highest significant mean difference in platter type is 0.658 of Melaka group differ significant from Kuala Lumpur group, while the smallest is in the group of Negeri Sembilan is shown significant from Perak at the mean difference of 0.335. Thus, the highest significant value of mean difference is in bowls type and the smallest is in mugs type.

The types of Mug are shown Melaka group is significantly different from the group of Penang, Kedah, and Kuala Lumpur; in compare to Park group has also significant variations from Penang and Kuala Lumpur groups. Furthermore, Negeri Sembilan group presents variance significant from Kuala Lumpur group in mugs, bowls, and pitcher types. As well, Penang group differ significantly from Kuala Lumpur group in bowls, and pitcher types. Yet, Negeri Sembilan group shows significantly different from Kuala Lumpur group in pottery types of bowls, pitcher; as well as in bowls, Melaka group is shown significant from the groups of Kedah, Negeri Sembilan, and Kuala Lumpur. In pitcher type, Perak, Kedah, or Melaka groups displays significant from Kuala Lumpur group. In pots types, the group of Perak or Johor or Penang show significant from Kedah group. In vessel type, the group of Johor has significant from kedah group. The group of Kuala Lumpur shows significantly different from Kedah and Negeri Sembilan groups in vessel and vases types.

Therefore, the highest significant mean difference among the pottery types is in pitcher of 1.074 that Melaka shows wide significant from Kuala Lumpur. However, the group of Melaka shows less significant among types of pottery from Johor group.

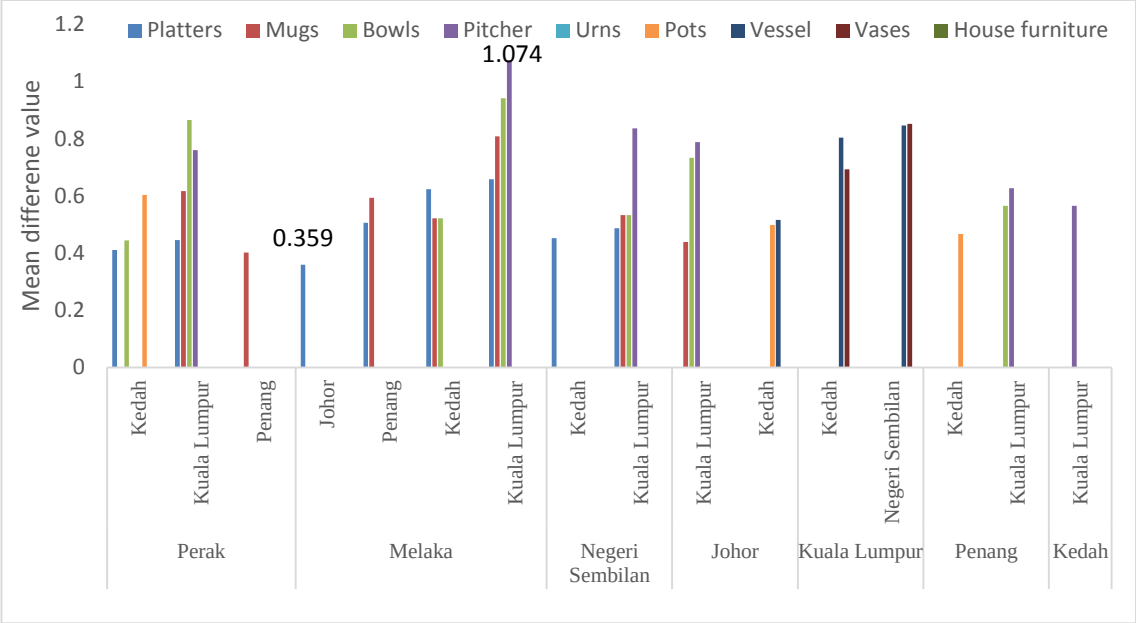

Figure 4.32: The Comparison between Groups of Different Regional Based on Types of Pottery in Post-Hoc Test Results.

On the other hand, the mean scores detected in several groups of regional states of the potters producing urns and house furniture types of pottery are insignificantly varied respectively. Thus, these kinds of pottery failed to support the hypothesis of "The variances among groups of potters in respect to different regional states might lead to diversification in pottery production".

Figure 4.33 shows the ANOVA test in techniques of pottery, which the standard derivation is indicated the impact of the regional differences of potters in term of techniques of pottery. There is statistically significant effect based on techniques of pottery in casting (P=0.014), wheel (P=0.000), and machine equipment (P=0.003). The highest value variance significant of F(2, 497) is 7.992 of wheel technique, while the smallest value of F(2, 497) is 4.285. Thus, the variance significant in wheel technique is also higher than others techniques.

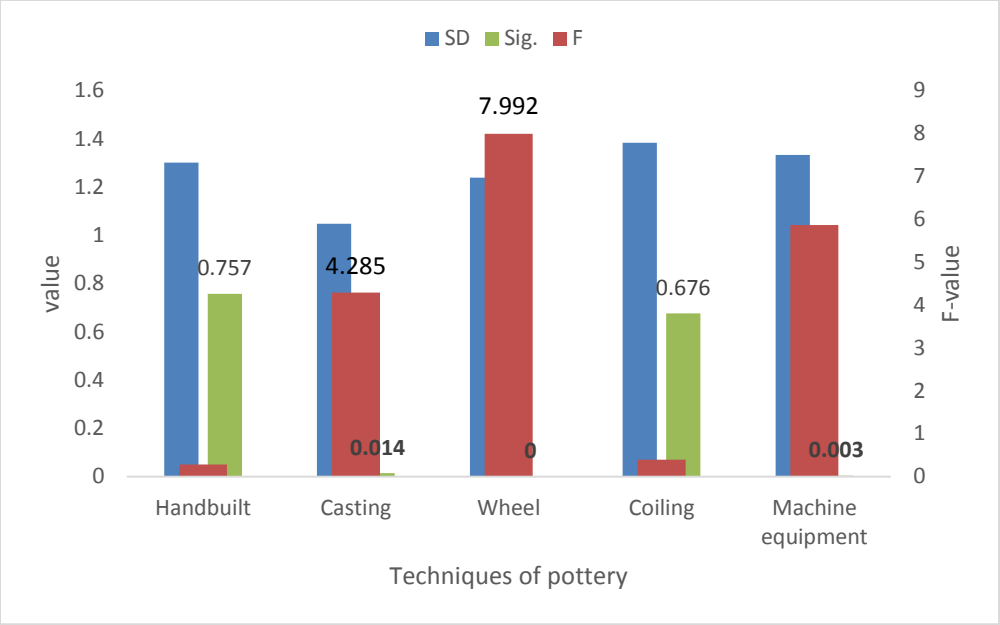

Figure 4.33: ANOVA Test in Terms of Techniques of Pottery in Different Regional Groups.

Figure 4.34 shows the mean score based on techniques of pottery for regional differences groups, which Perak group shows variance significant from Melaka and Negeri Sembilan groups using handbuilt, and/or wheel technique. Yet, Johor group is shown difference significant from Melaka, and Negeri Sembilan groups in handbuilt, and wheel techniques, as well, in the group of Penang differ significantly from Melaka and Negeri Sembilan groups in handbuilt, and from Melaka group in wheel technique, however, from Negeri Sembilan group in coiling technique. Likewise, Kedah group differs significantly from Melaka and Negeri Sembilan. In addition, Kuala Lumpur group is shown significant variance from the group of Johor, Kedah, Melaka, and Negeri Sembilan in handbuilt, from Melaka and Negeri Sembilan groups in wheel and coiling techniques, and from Johor, Melaka and Negeri Sembilan groups using machine equipment technique.

Referring to the results obtained in the test of different types of products made and the techniques potters use in their products; and according to various regional groups of potters current study confirms that, there are differences in all types of pottery

except urns and house furniture. Accordingly, such types of pottery are made frequently and more precisely by the potters living in Kuala Lumpur, Melaka, and Kedah. However, study discovers that, Kuala Lumpur potters with Perak, Johor, Penang, Melaka, and Negeri Sembilan are significantly different from other districts in terms of the way they produce their products. Whereas, Kedah with Melaka and Perak also differentiate in their method of making bowls from other districts; as well as, Perak with Penang and Kuala Lumpur are shown significantly different from other districts of Peninsula Malaysia. Thus, the highest mean difference of 1.425 in handbuilt technique among pottery techniques, which the group of Kuala Lumpur is shown significant from Negeri Sembilan, while the smallest in wheel technique, which the group of johor is significant variance from Melaka group.

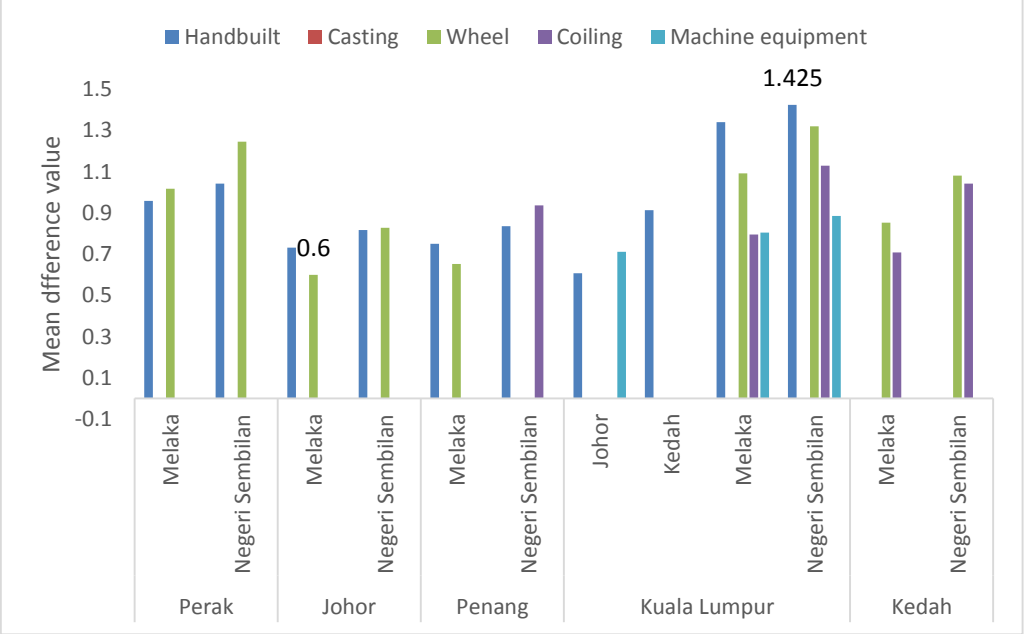

Figure 4.34: The Comparison between Groups of Different Regional Based on Techniques of Pottery in Post-Hoc Test Results.

In short, regional differences among potters' groups in terms of techniques of pottery production entirely support the hypothesis of "The variances among groups of potters in respect to different regional states might lead to diversification in pottery production" through significant variation shown.

Consequently, this difference between potters groups that are attributed to different districts, is indeed a sign of that pottery products is not only considered as means for serve consumers' needs but they convey beyond meanings, as expressed by Marshall (1985) that pottery widely in present time concentrates on style, which represent an entire culture context and contemporary cultures. More precision, my study proved that pottery production is reflective of social-cultural issues that are observed in different states of Peninsula Malaysia. However, Marshall (1985) somehow has emphasized this in his expression. He has eliminated that, pottery has described literally the cultural society through decorative motifs.

4.11.3 Significant Effect Displayed in Partial Least Squared Model

This section discourses only the significant variables among amount of variables that are hypothesized to affect on selected types and techniques in the pottery production. Thepath coefficient in the inner structural model (see figure 4.13) showsthat Market status, Government's initiative, ritual factor, social factor, and economic factor are shown significant in their correlation with dependent latent variables (pottery production). Significant variables of respective latent variables would be discussed in the following sections.

4.11.3.1 Effect of Market Status as a Predictive Variable on Pottery Production

The predictive variable of market status was recognized as the following manifested variables: order, consume, cost, knowledge, plan, profit, promotion. Results obtained by structural model point out that, the assumption of impact market status on pottery production has achieved a direct significant affect on pottery production as it was predicted. The results recorded in the previous section of analysis concerning effect size emphasize that the predictor variable –Market Status-has a medium effect on the

procedure of pottery production (f^2 = 20.51). Such result interestingly would support the assumption of Sub-H 3/1 hypothesis; Market Status factor influences pottery production that contains several types and techniques of pottery.

Importantly, the predictor manifested indicators of order and consume are the most influential variables affect on the strength of relationship between market status and the procedure of pottery production, as such relation was displayed significantly in the structural path modelling of pottery production. Such results came as confirmatory sign for some references that are cited in the literature review. For instance, Abebe *et al.* (2010) has reflected a rough picture of the rural marketing system entirely, which might be represented as an evidence for such hypothesis: market status is thought to be effective factor influences pottery production. In this case, potters, who have been recognized in marketing system to handle more than one profession, contribute considerably in the process of pottery industry of Malaysian market place.

In other interpretation, results are in line with Hut and Speh citation (1984) which point out that rural marketing system is typically reflective of interrelationships existing between marketing and the clay manufacturing business. More explanation, the need of identification pottery along with the factors affecting such production, all is driven to improve the industrial production of handicraft entirely. Additionally, the worksheet conducted by Ninth Malaysian Plan 2009/2010 indicates that executing high technology for pottery production assist to enhance and promote rural industries of handicrafts. Thus, this indicator, which was inferred by the worksheet presented as Nine Malaysian Plan 2009/2010, would support here our result that obtained significantly at the model to examine the Sub-H 3/1 hypothesis. Further, as was stated in the proposed Malaysian plan, the components such as: promotion, marketing of Malaysian arts, culture, and heritage products would positively influence the handicraft products entirely and pottery products particularly by either international or local levels of

marketing campaigns; and via prestigious international events. Therefore, such clarification emphasizes the idea of association pottery production with market status and with domestic occasions such as National Craft Day festivals.

Eventually, the results came from the assumption of affecting pottery production along with types and technique of pottery production by the nature of market status indicates that the results were achieved adequately the level of validity and creditability.

4.11.3.2 Effect of Government's Initiative as a Predictive Variable on Pottery Production

The concept of government initiative was linked in many studies. However, it intensively concentrates on handicraft products in order to investigate the extent of impact government role on the process of pottery production. Accordingly, pottery production is noticeably enhanced by some agencies employed under government in order to achieve a set of goals that are sit by governmental organizations for developing the heritage industries like productive industry of pottery. Some of governmental agencies, which are employed for the purpose of promoting and developing the handicraft industry, mostly led to some significant changes in the direction of pottery production development. Interestingly, the results of our study came somehow compatible with these changes. Moreover, our study emphasize through the results that government's initiative can influence significantly the path of pottery production development.

Consequently, our current study proves the mass production characteristics with the manufacture of standardised products supported highly by government plans. Therefore, craft production (pottery specialization) can be defined as the manufacture resulted of a wide changes occurred among unskilled workers (potters) through intensive initiatives of government's oriented plans. (Day *et al*., 2000) such

interpretation emphasizes for achieving the completion of an effective role of government on the productive industry of pottery. Further argument was in line with yielded results, which indicate the salient role that was applied by contributively government's initiatives. However, results show the level of strength in the postulated relationship between development productive performances with the government's initiative to be medium in 10% (*t*= 1.758). Weakness the strength of such relationship, though it is shown significant, might point out the thought of that presented government's plans are not pursued precisely when executing pottery production. Therefore, government'splan for developing pottery production failed to assert strongly either such planis compatible with potters' needs or addressing their requirements.

In respect to ethnographic record, the importance of small community of potters is represented by the government's initiative focusingon the contemporary tribal societies and individuals' specialization (pottery products) for reinforcing the national economy regardless the extent to which the government plans compatible with the potters' reality.

4.11.3.3 Effect of Ritual Factor as a Predictive Variable on Pottery Production

The perception of ritual factor and the extent of its effect on the pottery production are found to be significantly important, however, it is not at the same level of strength with the variables of market status and government's initiative. Worthy to know, assumed hypothesis of existing a direct effect of ritual factoron improving the pottery production displayed as a significant factor but only in small effect on all components of pottery production (types and techniques of pottery production).

Interestingly, our yielded results came consistent with utmost importance to demonstrate how religious beliefs and its interaction link with the path of development

of ceramic industries are affective. The statement of Xu *et al* (2009) confirms that, the meaningful function of black pottery reflects the spiritual need and the implication meanings. By other sense, pottery in the view of Xiaoyuan (2007) is representave of haritage culture of conventional people.

Ritual factor is regarded one of engine bases that affect on the performance of pottery production through a set of indicators such as intellectual, social, and ritual discriminations. Our findings have proved that, intellectual discrimination highly affects the ritual factor to correlate significantly with the pottery production. The most relevant statement shown by Gosselain (2000) emphasizes the significance of intellectual variable for strengthening ritual factor and its affecting on pottery production. More precisely, he points out that, pottery in its nature is mostly associated with ideology, inherited beliefs, and social meanings through transforming potters' ideological concepts visibly to material objects. Therefore, from this point, the necessity for identifying the social identity of potters who made religious products becomes essential in most ethnographical studies (Hodder, 1982).

According to the discussion made by previous studies upon the ritual factor, ritual factor is evidently associated with social lifestyle of particular group of producers. As a result, Rice (1987) states that, among the differentiation of social groups, ritual discrimination would be resulted through the antiquities of productive goods such as innovation and elaboration of pottery. Thus, in this regard, he believes that growing demand for the religious, ritual, or even mortuary pottery assist to increase the pottery production.

The value of ceremonial products are materialized obviously with growing socio-cultural variances; such variances were found to appear noticeably in high standardization of low value that often comes up with high consumption of utilitarian goods and particularly religious and mortuary products (Rice, 1987). By other meaning,

Rice (1987) emphasizes that, the impact of ritual factor on the path of pottery production lies precisely in the kind of ceremonial pottery products. In conclusion, the importance of ritual factor which is observed significantly through our results points out the criteria of being the most easily access resource and the most encouragement financial award for the skilled potters and/or artisans to make a touchable cost and activities feasible. Fortunately, the postulated relationship was shown in our model to be significant at 10% (t= 1.72) which means this default hypothesis has small effect on the process of pottery production.

4.11.3.4 Effect of Social Factor as a Predictive Variable on Pottery Production

As was shown in the results, the hypothesis [Sub-H 3/5] was found to have strong influence on the pottery production. Among the remained indicators of social factor, the manifested variable of social correlation has scored high value at (t=37.56) to strengthen the relationship that has been assumed to link the social factor to the techniques and types of making pottery. From other view, such obtained result might indicate that the concept of social correlation and its components is the most affective factor that pushes potters to keep the social characteristics of their culture up in their artificial products.

The strength of results confirms our assumption of the social factor prominent significance in the holistically process of pottery. This interprets the pottery's position from the ethno-archaeologists' viewpoint over 15 years ago that was and still viewed as a comprehensive social perspective. The clearest evident that is in line with our yielded result is Kramer' demonstration of that, pottery ethno-archaeology considerably concentrates on the range of behavioural diversity of a small elite (potters) of a society (Kramer, 1985).

Furthermore, archaeologists have debated the concept of social theory through pottery variability. Thus, Gosselain (2000) could answer through his study the puzzled question of why some attributes of pottery seems to be widespread by diffusion while others are correlated closely with the social boundaries. The definition of social concept given by Silverman (2010) explains that, the phenomenon of social culture proves that, social groups are mutable entities as this shown clearly in his opinion through the material cultural products.

The result of social factor as shown in durable correlation with pottery production is interestingly consistent with Bowser's expression (2000). Bowser explains that, pottery decoration is an indicator for the political alliances. He illustrated the envension of how the decoration would be reflective for the concept of ethnic identity. Furthermore, our results in the hypothesis of association social factor with pottery production are accidentally compatible with Gidden's (1984) thought of that, potters often link their techniques of pottery production with the social correlation in daily life and political strategies in which he calls it "practical consciousness".

Evidence that refers to the role of social factor is represented in the Hegmon's (1992) insight, which resulted from his study's findings. Accordingly, he asserted that, some kinds of pottery styles refer to social groups while others show the aspects of individual identity. With other viewpoint, Sackett (1985) found that, the techniques of different styles of pottery signify evidently the symbolic communication of social identity.

In conclusion, our results matching Gosselian's (2000) and Stark *et al* (2000) results of that copied decoration of pottery seems to have distributed over through diffusion. Thus, in our social hypothesis we have assumed that, the diffusion resulted from social boundaries has effective role on getting similarity in the techniques of pottery production. Same results have met stark's finding of that, there is a relationship

between social group boundaries and technological tradition of pottery products. Additionally, Price's model (1968) confirms the thought of that; social and environmental circumstance drives the community of development specialization to pottery. Therefore, social trend in the potters' community is in itself considered a response of cultural, environmental, and social variables (Juster & Stafford, 1985).

4.11.3.5 Effect of Economic Factor as a Predictive Variable on Pottery Production

Economic factor was equal in the strength to market status factor in which has shown highly significant. The postulated manifested indicators, which correlate strongly to the economic factor, are in turn related directly to the process of pottery production.

The recorded results in our model for the economic factor indicate a significant value of (t=3.49), which points out the high correlation of economic factorwith the process of pottery. Among the manifested indicators, which are associated effectivelyto the assumption of economic factor, member of family and income are the most correlated and effective variables on the process of pottery production. This might be interpreted as these influences have highest impact on the pottery production.

Relatively, the results confirm -in context of tribal economic- the thought of that, tribal economic is in line with the depiction of tribal organization that is predicatively associated with the considerable range of pottery production. Interestingly, economic factor is not applicable as effective predictor when being isolated from other influential factors particularly social and ecological factors. As for instance, Malaysia (1992) points out through the study of environmental displacement in Malaysia that economic engine, social lifestyle, and handicraft industry have effectively the authorization for determining the economic situation of tribal people's products. Thus, production was one of the resources that is affected by updating the economic situation of a society

besides some other resources such as rattan, bamboo, and swapping palm that were exploited naturally.

Moreover, the significant signs in our results in regards to the economic factor are consistent with Pye's (1988) explanation in which pottery in particular has played a prominent role for reviving considerably Malaysia economic sectors. As well, the Malaysian economy has grown noticeably and witnessed of developmental growth in the industrial sector such pottery between the year of 1980 and 1983. Such historical occurrences emphasizes that, the development of pottery production is often in one line with the economic situation of a country. The illustrative-example given by Pye indicates that, increasing demand in pottery production leads to increase the rate of revenues. In turn, it would encourage the producers for creative production.

Predictably, the results of our study was compatible with Moore (1998) demonstration of that the economic situation, particularly Malaysian economic depends focally on handicraft productions that were habitually inspired to produce during the agricultural seasons. The clearest evidence is manifested by the similarities in the cord-marked pottery noted between southward Thailand and Peninsula Malaysia. Such type of pottery was found to produce in the sedentary village of north Kunchanaburi of central Thailand and Peninsula Malaysia in particularly agricultural seasons. Moore (1998) precisely illustrates that national economy was stand by handicraft products and its role for enriching economic situation.

In conclusion, this particular result emphasizes Moore's thought of that there is strong link between the local economic stats and the pottery production. All these mentioned references were somehow indicated the significance of economic factor through pottery production.

4.11.4 Non-Significant Effect Displayed in Parital Least Squared Model

This section discuss the factors, which are evaluated as weak relationships in the structural model and are failed to support the main third hypothesis. These factors are intentionally designed to support the hypothesis of, "The socio-economic and socio-culture factors such as Market Status, Government's Initiative, Ecological, Ritual, Social, and Economic Factors are assumed to have an impact on the pottery production, which contains selected types and techniques using in the pottery production".

4.11.4.1 Non-Significant Ecological Factor Impact the Pottery Production

The relationship postulated between ecological factor and pottery production is shown statistically weak in a value that did not reach the significant cut-off standard rate at (P= 1.69). However, the relationship among the components of postulated manifested indicators that belong to the latent variable of ecological factor is found to be significant. In particular, the speculation of ethnicity and gender variables' measuresare shown significantly in high values according to other manifested indicators such as authenticity, regional differences that are a bit in low rate of significant. However, entirely, the overview of the correlation between ecological factor and pottery production is considered insignificant at (t= 0.943).

The rational interpretation of why the assumed hypothesis (Sub-H 3/4) has failed to support the assumption of existence direct relationship between ecological factor and the process of pottery that might be materialized through the weak relationships of manifested indicators that match the ecological factor when compare it to the indicators of other factors. By other meaning, the manifested variables of authenticity, ethnicity, regional differences, and gender variables affect the ecological factor in weak relationships except the indicators of ethnicity and gender variables that are shown in high correlation with ecological factor. Rationally, considerable numbers of respondents

were agreed with the statements provided as measurements of how gender variables might be obviously influenced by ecological factor. Some of potters [trainers] responded positively with the case hypothesized that women potters are more in detail in their artificial products than men potters; while less respondents have instead insisted that there are no discriminants can be detected between the groups of men and women producers. In other side, amount of respondents were taken in account that the pottery products made by men potters increase in amount comparing to women groups' products due to women potters are often engaged household responsibility than men potters. This hypothesis was emphasied by the following potters [Fahmi Seramik; Nor Wahisa Rozali; Rozana Musa, and Mohd Dosnan - Mutiara Ceramic]. Davis (1978) explained the discriminant between men and women in terms of continual orientation for using the techniques in the cottage industries entirely and pottery production in particular. He asserted that women are often specialized for more traditional techniques due to women have unique ability of being patient to highlight the micro-details of motifs; while men potters are intended to use the machine for even drawing the details. By other interpretation, the disctriminant between women and men is clarified through the heavy industries generated by the new technology; as women here are classified to be excluded from these industries while men are often the most suited for such improved technology using machinery instruments (Milone, 1978).

Accordingly, pottery production is reflective of the aspect of regional differences, as the results show strong interrelationship between regional differences and ecological factor. Therefore, Rice (1987) in his common demonstration expresses that pottery in response to the ethnographical records is regarded a common means that has been used in most regions for trading food and which differs according to the regional differentiation. Material correlation in craft specialization might often establish

a specialized community upon on regional trading of exchange artificial goods that particularly reflect the regional discrimination through craft and pottery production.

We might conclude that distinguishing products in the traditional industries particularly pottery products might be only influenced by strongly two ecological factors mentioned in our model: gender variable and regional difference. However, such diversification is observed intensively upon the basis of techniques applied for pottery products rather than the basis of decoration or forming the artificial products. From other side, the predictors' indicators of authenticity and ethnicity were correlated in a quite weak relation with the pottery production. However, although these all-significant correlations resulted among indicators are shown generally significant with ecological factor but insignificant with pottery production. It might interpret that due to diversity among responses given by respondents that are often answered arbitrary. Yet, the unstable rate of responses cannot be accounted as real criteria for truthiness. As a result, ecological factor in our model failed to support the hypothesis of that, "Ecological Factor affects the pottery production which contains different types and techniques of pottery". Thus, ecological factor is not enough statistically significant in order to influence the pottery production.

4.11.4.2 Summary of Non-Significant of Effect Displayed

The summary of this part concentrates on investigating the level of impact either large, medium, or even small effect resulted from the market conditions and rules, government's role and initiative, economic factor and commercial rules, ritual factors, ecological factor, and social factor, and their impact on the pottery products. This section also discusses the negative relations based on the non-significant relationship between ecological factor and the salient components of environment along with their negative impact on the pottery production. It pointed out that, the conceptual model of

factors affect the diversity of pottery production. A combination of postulated influential factors was drawn in a form of different correlations affecting potters and in turn, these effects are reflected in their products. Therefore, current study suggests that these influential factors directly have the significant strienght to affect the pottery production through interaction the potters with these different factors.

4.12 Theoretical Considerations

This part was discussed in the chapter of literature review.Here is a consistent of previous part in order to confirm the linkage between fundamental research's concepts with the several perspectives stated by relevant previous studies. The most applicable perspectives, which are known via the antiquity aspect of pottery production, are the ethno-archaeological and socio-cultural perspectives (Stark, 1991). Stark suggests that, craft specialization was often viewed by socioeconomic perspective in which pottery production is usually in line with social complexity in a society.

However, pottery specialization was considered by Netting (1990) -the ethnographic specialist- from through common economic perspective that has led socially to cultural perspective. As well, a concern amount of researches was considering the issues of pottery production according to the experiments conducting for specific types of products such as utilitarian products (storage, and cooking pots). In such perspective, most investigations are focused on laboratory experimental studies that are mostly concentrated on issues such as surface treatment and texturing of surfaces in particularly cooking pots (Schiffer, 1990). However, among them, our study is consistent with Lefferts (2000), that whose study has engaged with several countries of mainland Southeast Asia. Additionally, lefferts' study was recognized as initially driving method of fieldwork experience and then transforms the predictive results to casual observation. Lefferts appeals about diffusion resulted of cross-cultures in which he proclaims, existing relationships among the communities appeared through artefact

products. Moreover, from other side, our study actually built upon Stark's insight. He emphasizes in his study the ethno-archaeological issues discussed in the productive specialization. Therefore, our study is an extension of stark's attempt to explore the suit factors lead to intensification of productive specialization of pottery and guides eventually pottery specialization to be generated over specialist communities.

It should illustrate that archaeologist's efforts towards identification the technological and stylistic characteristics among the types of pottery given as samples, would only serve our study from the goal of concentrating on the social context to explore the local scale, activities, and interaction occurred among the members of society. However, as Cobb (1993) explains that, the framework of archaeology endeavours through pottery manufacture to gain information about certain historical era. In other hand, Smith (1999) believes that, the ordinary domestic goods (e.g., utilitarian pottery products) are precise indicators for particularly political entities. In addition to some other factors such as exchange activities in what is undergone of social complexity, and diversity of goods are reflective of individual characteristics such as status, ethnicity, age, gender, and profession. Individually, as a personal opinion, I cannot agree with the political factor to be an important indicator to large scale in the pottery production. Additionally, the trait of diversity noted in the pottery production in my opinion can be return back; as a result of differences among individuals according to the ethnicity, age, and gender.

Other perspective that is materialized by the economic model and the economic role might affect pottery production. Guetzkow (2002) has debated the issues of ceramic by using economic insight in order to identify the economic stimuli such as income, and revenues. Guetzkow explains that, the economic impact on the pottery production can be distinguished into several categorical kinds of revenues such as revenue from local sources, and revenue from tourists. However, we personally believe that, the most

effective stimuli for outgrowth of large scale of pottery production are resultant of multiplying returns income that was obtained from pottery manufacturing.

There is another point is in need to be stressed in order to interpret the finding in this research, however, Lefferts (2000) discusses the importance of geographic impact on pottery specialization through the discriminat of regional distribution. Alongside, Rice's (1987) stressing about the role of ecological and economic influences that are reflected the differentiation in distribution of ecological resources. Despite, our finding restricts that ecological factor has no exceptional effect on the ceramic and entirely it is generalized on all handicraft industries. Consequently, the weak link between the predictive assumption of ecological factor and the pottery production cannot be interpreted as indicating that ecological influence has considerable affective part in the process of pottery. As along, we postulated the diversity aspect to be evidently observed among the products made traditionally, some of other studies emphasize the propensity of traditional mimic with existence the regional diffusion of culture. Manning (2011) also emphasizes that most of Southeast Asia's pottery products have a similar features of a finished objects in which casually can interpret it due to easily traded, borrowed, or copied across social boundaries that often reflects the widespread network of exchange and interaction.

Rice (1987) points out that, ethno-archaeological research concentrates in one hand on production and the society manufacturing techniques; and on other hand attempts to acquisition different patterns of pottery production. Although he approaches the issues of pottery production techniques through the archaeological perspective, he admits that, the economic predictive, which is of the most important relevant subject in the manufacturing techniques, is difficult to be developed through the archaeological perspective. From other different side, Lertrit (2000) asserted that technological

approach is used to highlight firmly the aspect of technological and material cultural studies in which importantly correlate with most pottery productive issues.

4.13 Prediction Power of the Model

This study uses PLS technique to explore what the external factors affect the process of pottery. The R-square results of the operational model shows a high predictive power, thus implying that the process of pottery production and its components can be predicated by the predictive factors that are thought to influence pottery. Therefore, in the model, the postulated factors such as market status, government's initiative, ritual, social, ecological, and and economic factors are all considered as influential factors affecting pottery production.

However, as explained in the Methodology chapter, unlike covariance based SEM technique, the PLS method is designed to maximize prediction rather than fit; that is, PLS is optimized to maximize the proportion of variance of the dependent construct that is explained by the independent constructs. Thus, the PLS method investigates the predictive relationships between dependent constructs and independent constructs; it also explains the predictive power of the proposed model. However, predictive relationship is not sufficient to imply causal relationships. Wold (1980), the developer of the PLS technique argued that,

> As to the distribution between causal and predictive inferences, causal relations are always predictive, but predictive relations are not necessarily causal. The question whether an explanatory variable is not only predictive, but also causal, belongs to the subject matter of the model (Wold, 1980, p. 71).

Consequently, the predictive model explores that, the relationships underling our study should deal with the findings as predictive results and in turn should not be considered as casual results. By other interpretation, the predictive hypothesized factors, which indeed have stated in the model, do influence the techniques and certain types of pottery production, but oppositely these factors do not cause radical changes in the

potters and their products as well. Some authors such as Andreasen and Manning (1990), and their explanation of marketing role for differentiation and developing the pottery production, supported my belief toward critical factors of economic, social communication and cultural discrimination. He also adds that potters will be stimulated to improve the quality of their products in the case of increasing consumption. Again, Andreasen emphasizes that industry development is controlled over the society cost that effectively accelerates developing the artificial products.

From other point, Throsby (1994) illustrates that production and consumption in all kinds of arts particularly in the pottery industry have been highlighted through the elements of human activity. Additionally, he pointed out that for long term the issues of cost and consumption have engaged the attention of many contemporary economists. As well, he points out that widespread of pottery is only undertaken with the consideration of "cultural economics" of arts or by other word economic arts. Accordingly, our results show economic factors in the field of handcraft as the most effective factor as that was displayed in the results. This might scientifically indicate that if the predictive implications of economic factor are prepared for the potters (producers) then pottery production might be achieved in perfect diversity. In contrast, absent one of predictive implications in the hypothesized economic factor would result economic factor to be not affective part in the creative process of pottery.

Looking to other hypothesized factors, we can then recommend the governmental effective role to be influential factor positively on the pottery production. Throsby (1994) points out the role of government in enhancement all types of pottery and different techniques used in pottery. He asserted that, most kinds of arts are supported financially through governmental organizations and/or voluntary, which contribute significantly in enriching pottery production. Such case of postulated factor might be explained as the following; if the government's initiative lacks one of

predictive indicators then the strength of government's role will not be highlighted effectively in the production of pottery. Thus, if all supportive means provided by government to potters are available partially or not available; potters would be not able to produce his products intensively and in enhanced way.

In the case of ritual affect, current study suggests that, the ethnic differences among different groups of potters might result distinct products relating to each potter's racial group. Alongside, mixing different racial groups of potters in one group will assist to empower potters' skills with several of techniques. Likewise, social factor, which is powered by several predictive indicators for supporting social factor in the model, often associates with the trade movement particularly in the commercial artefacts products. Therefore, cultural diffusion and social correlation is the distinctive variables indicating powerful aspect in the model. Along with, training courses that are assumed to contribute for exchange of knowledge between different groups are considered effectively essential in the model.

In conclusion, previous discussion is supported with the reason of why mentioned factors are considered external factors. Evidently, external factors are viewed to only be influential when all the predictive indicators loaded in each factors are adequately provided for all components of pottery production. Therefore, we can absolutely evaluate that; current model has integral affects and does not work with the partial affects.

4.14 Summary of Discussion

Besides the literal merits, the selected factors in current study, which are involved effectively in the process of pottery, are considered terminally to be divided into two categories: socio-economic and socio-ecological factors; confirming that, such factors are statistically recognized as external factors that affect directly the potters and

their artistic products. Considering factors to be having external effect is due predictive method of PLS function.

More explanation, the results of our research suggest that the productive process of pottery along with the basic elements of production is influenced by certain of influential factors. By approaching the ethnographical issues of handicraft productsthrough the principles of economic perspective, current research deals with these certain issues as factors: market status, government's initiative, and economic factor, besides, social, ritual, and ecological factors as having salient impact on the productive techniques applied on either commercial or traditional pottery products.

Furthermore, researchers, craftsmen, artists, and potters are subjected for thesekinds of hypothesized relationships that have been designed between certain types and techniques of pottery production along and a set of predictive factors. In addition, in the case of remaining the quality of potters' products high; potters will be benefited from the finding of such study toward acquisition valuable information for improving the pottery production.

4.15 Research Implication

4.15.1 The Analysis of Pottery Production as an Evaluative Tool

Accordingto the fundamental objective of our study, the basic orientation toward displaying the influential factors that affect potters concentrates on evaluative function rather than descriptive function.

Hence, the ethno-archaeological perspective, along with the socio-economic aspect in which contain broad social network among potters (including the motivation dimension and the influences of the external factors) all together lead Redzuan, (2010) to confirms the evaluative role in the productive system particularly (pottery production).

However, the analysis of pottery production for long term has been treated as evaluative tool, but the question of “What is the pottery in the production system can measure? Is still remained unanswered question.

From personal opinion, no matter if not all predictive factors have actual effect on potters, but it is more meaningful if some of them, which are assumed to be effective factors, have influenced potters through certain criteria, for instance, taking socio-economic perspective as a case. Socio-economic might be represented in the production system of pottery through the social context of production system and through interacting potters in the society. In contrast, of the social interaction, the concept of cost and profit in marketing production are proved to influence technologically in changing the techniques of pottery according to the skills and knowledge that a person possesses. Consequently, elder potters would not constitute concrete benefits due to their interest to remain traditionally the antique techniques in their products; but rather they represent an effective source for the originality. Further, in the concept of social interaction, the social capital often built up over years of cooperation among potters with the supportive organizations in the society. In such case, the production system is valued upon the material gains offered almost for the new technology.

Therefore, the usefulness and utility, which are the most usage measurements, were debated in the scope of production system. Additionally, they were used as acknowledgment of creative skills and intellectual merit. Thus, in the disciplinary of handcraft production, measuring the types of pottery products built upon the perception of utility particularly in the utilitarian products.

4.16 Research Originality

4.16.1 Construct Design

Adding to the knowledge, the current study is regarded the first literal attempt conducted to handle all elements of the pottery production with the predicted external factors within theoretical framework of constructs. Such constructs in the designed framework are expected to be transformed to concrete variables.

Interestingly, it is potentially interpreted that, the variables observed individually are typically not adequate to hold the holistic notions of the predictive constructs, in other word, not summarizing the constructs. Therefore, each construct is single dimension that consist a set of especial characteristics that are in terms of content related to the domain of construct.

In the methodology, model of postulated relationships associates the pottery production with the five predictive factors that are shown as constructs. These constructs are namely: market status, government's initiative, economic, ritual, social, and ecological factors. Establishing each construct is functionally based on operation system with formative constructs. With taking in mind the nature of constructs, the relationships that are designed in the model are consisting either reflective or formative direction.

According to all discussed considerations, mentioned considerations are managed to control the research design and contributes for exploring the originality aspect of the model design.

4.16.2 Comprehensive Model Design

Employing the hypothesized external factors in a single model for the current study is habitually the salient example for originality aspect in the designed model.

As was stated in the literature review, many similar studies displayed quite similar issues in the domain of handicraft production entirely. Most researchers in different studies have conducted simple correlations or approached their studying by different way that unfortunately in many sources did not pay attention to study the highest percentage of impact these factors on pottery production. However, other types of researchers have utilized the multi-regression techniques and escape using or even postulating existence of interrelationships among our predictive set of external factors. In other meaning, the other deactivating part of researchers have not taken in their mind the importance of these predictive external factors and their actual effect on the pottery production. However many researchers did not concentrate on the fact that often humanist studies and the perspective of ethno-archaeology is in its nature holds intertwined issues that cannot be isolated from each other.

The unit of analysis section in this study revealed that is actually the first study could address and handle in its analysis a complex of interrelationships that are recognized as constructs (Factors) in one model.

4.17 Summary of Chapter

Current research could bring unique findings that are related to some direct influences of factors on the pottery production. Further, the current chapter was designed upon the discussion of mostly what, who, and the extent effective of predicted external factors influencing the pottery production.

Additionally, with involving the model, theoretical illustrations of the research findings, and the endeavour to handle the challenge for improving the theoretical model of influential factors affecting pottery was discussed precisely in this chapter. Along with, discussion of model originality in the research implications was debated as well in such chapter.

Empirically, insufficient theoretical supportive sources and lack of coherent basis of theories related to our study was a part of challenges that could limit some yielded findings; but rather it has driven to distinctive model. Yet, economic, social, cultural, religious, and environmental with other elements of social life were concerned as factors, which are specialized in order to generalize our research findings. Additionally, the attempt of releasing the extent of hypothesized factors and their affect on pottery is actually the initial step for investigating such factors in a single default model. However, multi-disciplinary fields that are related to social and humanities studies and specific fields of artificial productions can benefit this exploratory study. Thus, this to be recommended that, further studies might be suggested to improve current model of research designed and drive it for another fields.

Summarily, next chapter concentrates on contribution of current research and giving a recommendation for further relative studies along with discussing the study's limitations and the suggested direction for further studies.

CHAPTER 5

Conclusion

5.1 Introduction

The current research provides various theoretical, practical, and methodological contributions in the two mainstreams of socio-economic and socio-culture. Current research concentrates on summarising the broad fundamental lines of research derived from the main research question. A basis of theories in the Methods and reliable findings are all being contributed this study.

Limitations are being discussed broadly along with a set of future orientations that are suggested to be applied for future relative studies with expecting to enhance the theoretical model of our study for the future studies.

5.2 Contribution

According to the gaps that clarified in the section of problem statement, and based on the theories of artistic production, the current study was designed to answer the question of, "to which extent could these two main mainstreams [socioeconomic and socio-culture], which designed the external factors, affect the pottery production-either traditional or modern style of pottery?" (refer to section 1.4). Hence, a conceptual model has been drawn theoretically in our study in order to generalize the influences of marketing issues; economic issues such as income and living situation and/or conditions, cultural, ritual, and social issues such as social correlations between the same and different groups of potters in terms of ethnicity on pottery production.

The findings are aimed to be applied on different units of production and to examine the nature of the external factors, which are assumed to affect pottery production. Furthermore, accordance to the hypotheses stated in the section of

methodology, the findings yielded in the current study is firmly tested to measure the affect of differential potters' aspects such as gender and marital status in addition to the differentiation of age, ethnicity, regional differences, and career affiliations on some selected types and techniques are used in pottery industry.

The current study investigates the various characteristics among potters' groups in respect to different gender (male and female), different kind of marital status of potters, variety of ethnicity, age, the distinctive of different regional groups of potters. It also investigates the differences between potters who are employed by governmental organizations from those who are involved in private companies. The differences found significantly among various potters' groups have been drawn to measure such differences that affect the different types of pottery and different kinds of techniques used in pottery production. The types and techniques in the pottery production are representative of the concepts of pottery.

According to the initial factor in our design, market status was investigated to examine the extent of significant role of market place in pottery production through a combination of elements such as order, consume, cost, losses, knowledge, plan, profit, and promotion. Hence, as the finding has shown the extreme of significance between aforementioned components, order has been recommended firmly in the concept of market status to be more resources market impact on the production of porcelain. Therefore, the percentage of impact in market status rose highly through the order, which in other hand affects to increase the pottery production. In the line with the significant of order, which by other way was recognised as demand, the influences of market on pottery are somehow established with the availability of market places, providing the manpower/workers, and affording small capital. However, demand in pottery production is recognised the most effective indicator for increasing pottery production (Redzuan, 2010).

In other hand, the importance of economic for achieving a higher ratio of production is precisely illustrated by Wellisz (1966) statement: “technological progress is the prime mover of economic development, but a simple injection of modernization does not cure poverty” (Wellisz, 1966, p. 234). Accordingly, it is apparent that economic side is one of the most establishment bases for modernization aspect in particularly non-farm societies. Therefore, availability of income for small production sectors such pottery production is regarded the most substantial factor contributes for raising the production of pottery.

Social factor concentrates fundamentally on social correlations resulted from cultural diffusion. Therefore in our designed model, results show that social correlation, which is representatively illustrative element of social factor, scored higher significant value when compare to training courses. Our results emphasize the fact of diversity of culture in Peninsula Malaysia; however, it also confirms the social connection with some neighbouring countries of Southeast Asia. Lowry (1977) stated that the original people of peninsula Malaysia comprise incredible rang of diversity among the culture of Orang Asli. However, these cultural overlapping had led to bring a new language and sophisticated technology in particularly their manufacturing sector.

Genetic investigation carried out by (Bulbeck, 2003; Bellwood, 1993) and their findings are compatible with what we have found in our findings. The impact of social correlation has strength effect on pottery production, which has demonstrated by Bulbeck in other way that Austroasiatic and Austronesian impact on the social life was not only observed in developing and spreading language in South China and also Southeast Asia, but had included Austroasiatic style of pottery and some sorts of polished stone Artefacts. Notable evidences indicate to the continuity of impact on sites in Thailand such as Ban Kao. This also proves the association between Austroasiatic and the ancestor of Malaya agriculture that has been spread during the early metal phase

(Bulbeck, 2003). The effects of propagation and cultural overlap are still applied in Malay Peninsula's sites.

From other side, potters facilitations have strong affect among other effective elements of government's initiative factor that is shown significantly in the structural model. Government's initiative apparently reflected in a set of governmental sublimations either financially, nor through national activities, and giving the opportunities to the potters in order to participate and exhibit their handicraft products in such activities. However, government activities and plans drawn were not going in a way that complies with the potters' daily requirements. In line with the assertion of Malaysian handicrafts development cooperation, the progress of traditions and handicraft traditional products such as clay manufacturing products (pottery), textile, and weaving are not falling into a set of profitable products. Furthermore, in the worksheet presented by Malaysian handicrafts development, it was clarified that, handicraft industries were driven out of the market and then left out of date. It was not because they are not improved in terms of function, or that, these products are concentrated to be excited only by the aesthetic sense, but due to these products were left to die out. Additionally, the reason of neglecting the potters' products is might due to the difficulties in dealing with them as means to improve the livelihood situation of potters; for example, those who depend on pottery as a basic mean of income (Malaysian Handicrafts Development Cooperation, 1999).

Wellize emphasises in such regard the association between technology of pottery production and the role of government, which is often approached from economic view. Wellisz stresses that, the initiative provided by government has important role in implementation of a development strategy of producing different types of pottery and enhancement of pottery techniques. Additionally, Wellisz adds that, technological progress of pottery production is a prime mover of economic development. The findings

of our study point out to the significant importance of potter's facilitations to be highlighted seriously into the government annual plans. Recommending these plans to be investigated of that whether these plans can be response for the potters' current needs or not.

In respect to the ritual factor, it was shown in our model as quite strong significant, is the affect on pottery production is counted here in 10%. However, according on the results obtained we can claim that ritual discriminant displayed higher in significant in compare to other elements are representative of ritual factor. Thus, releasing a ratio of significance would lead to existence significant lines with the pottery production. We might suggest for future studies to fit the concept of cultural diffusion into ritual factor, base on the importance of cultural diffusion as affective element on ritual factor. Evidently, archaeological evidences are essential for revealing origin, tradition, and cultural overlapping. Therefore, collecting information on present-day pottery rely on the trade of pottery and methods of manufacturing pottery. On the other hand, Ellen & Glover (2074) indicate in their study that the widespread of culture along with the ritual activities are extended in several cities in Peninsula Malaysia; so the tradition of Sulawesi, Timor and Melanesia were obviously demonstrated through similar characteristics in terms of culture and ritual activities. For instance, the commercial products that were represented by commerce had developed over Malay Peninsula islands through the traders of Indian, Arab, Javanese, and later European, as such, affect could include many aspects of local culture, the pottery products types, and then techniques distributed over certain centres.

Furthermore, in the principle of affecting ritual activities on pottery production, any attempt released by Malay Peninsulan' potters was interpreted by their culture ritually as a willing to introduce a set of traditional techniques to other neighbouring villages. From ritual concepts, pottery production is considered exclusively the domain

of women in a small society of potters' aggregations. Almost Stahl (1998) and Matson (1965) have argued the importance of ritual religious' concepts critically within limited frame of Southeast Asia. Stahl (1998) has concentrated on the elements of pottery making techniques in java (Indonesia). However, he commonly linked some habits of religious practice to the frequent usage of methods such as firing and forming. In other hand, Kempers (1970) was crucial in the domain of tracing a set of religious habits and shafting the elements of production within trading to Madjapahit, which is counted an old kingdom has settled down along the coastal tape of Malacca. Accordingly, Kempers stresses the concept of cultural development continuing until our present days in order to assess the antiquity and origins until present-days of goods by some of interested researchers such as Kempers. He illustrated in his new discovers that, ninth-century is a witness of widespread of handmade pottery products using paddle and anvil techniques that can noticeably be observed to be in use by contemporary potters (Kempers, 1970).

In contrast to the ecological factor that is displayed insignificantly, our study reveals that, there is no effective relationship between ecological factor and pottery production can be detected in the model. Results tested in the concept of gender indicate that, there is no difference between the two different types of gender (Male and Female) in terms of different types of pottery and the techniques used in pottery production. Likewise, regional difference seems to fail in constituting a considerable significant in the concept of ecological factor; thus, it has failed to affect on the pottery production significantly. Same with the ethnicity and authenticity in the concept of ecological factor, results show that, different ethnic groups of potters unlikely to being a cause for differentiation of pottery techniques and types. Reversely, we could notice similarities not only in the pottery made by potters of the same regions and neighbouring regions; but also between Malaysian potters' products and the pottery of other countries neighbouring it. In other hand, though, authenticity is constituted the central point of

reflecting the traditional aspects of pottery in many countries, but results are not to support the value of authenticity from the Malaysian potters' view of point. It might be due to their keen to gain a considerable profit by their marketing way of promotion.

Within the summary displays the extent of selected factors' effect, we would here claim that our conceptual model is successfully valid to prove the affect of previous mentioned factors. In other hand, the results obtained of structural model are being promoted here to contribute the following several points:

- Recommending highly the factor of market status as most affective factor on pottery production among other hypothesized influential factors.
- Contribution by a robust proposed model combines the most frequent factors were being discussed for long term.
- Highlighting the significant of order among other elements stated as supportive elements in the market status.
- Stimulate potters to concentrate on the market status and particularly on order for marketing their pottery products properly, meanwhile remaining authenticity aspect in their production.
- Encouraging potters to pay attention upon values of authenticity in their pottery products besides their interest of gain profit.
- Encouraging potters to constitute a big family, as such kind of family can economically contribute for increasing the income and raising production.
- Encouraging potters to build broad social correlations either with the potters of other cities in the same country; or with the potters living in neighbouring countries.

- Confirming strongly the importance of potters' facilitation by government for enhancing pottery production in terms of techniques of pottery or producing the more interested kinds of pottery.
- Contributing by throwing the light on the importance of ritual factor for pottery production; and stressing extremely the significance of intellectual/recognition differentiation for varying the techniques of pottery used, and different kinds of pottery.
- Presenting our findings of structural model as valuable proposal is valid for the future plans carried out by the Ministry of Tourism and Cultural; Ministry of Information, Communication, and Culture; as well Ministry of Culture, Art, and Heritage.

5.2.1 Theoretical Contribution

Regarding to the discussion focusing on theory of race and ethnic in the ethno-archaeological perspective, and the theories of profit, income revenues, and losses in the socio-economic perspective, all theories that are employed particularly to support our topic have indeed articulated upon the vital role of potters as member in their society.

According to the theory of cultural diffusion, Terrell (1997) has established the theory of regional diffusion as introduction to investigate the influences of immigration on pottery technology. Terrell's theory, which is in line with our contribution, was referred to prove that cultural similarities among neighbouring countries are evidence of transformational technology of distribution pots among most Southeast Asia countries.

The perspective of sociology was evoked to be investigated by many human and anthropological studies. Thus, our study contributes into previous studies by reinforcing knowledge of race/ethnic impact on the pottery production in terms of similar aspects in many societies. Our contribution emphasizes on the role of cultural diffusion and social

changes such as local economic, political, and social interactions; likewise, looking forward the affect of different social patterns on pottery production.

Current study contributes theoretically to illustrate which factors have led to emergence mutual influences between the elements of the pottery production by two dimensions of ethnic differentiation: first, the socio-culture perspective and the production stimuli; second, the socioeconomic perspective.

Distinctively, our study is regarded the first study that handle all hypothesized external factors, which are combined together in one model to address intensively the themes of interaction and interrelationships among the factors and productive influences on the pottery production.

According to the finding yielded, current study, in relating to the conceptual model, provides critical theoretical evidence in the basic dimensions of productive process. Thus, the two dimensions: selected types of pottery examined in our model along with the most techniques used in pottery production are influenced effectively by the two trends of potential factors [Socioeconomic and Socio-culture]. Hence, our study is conceptually articulated in unique aspects of ethnicity, authenticity [originality], social correlations including productive skills, profit, cost, and the potentiality of loss in the marketing system for filling the knowledge gap of research problem ethnologically. In respect to the conceptual model of artificial pottery production and the results yielded through empirical examination of operational model the present study is subjected to contribute new issues in pottery production in which are related to the artistic realm conceptually.

Concluding to above, the present study has been carried out based on new implications used to contribute for the first time as evaluative tool. Hence, the aspect of evaluative tool in our model was used to serve the aesthetic concept of the production and the external potential factors influence it. Therefore, it points based on the empirical

findings that the influential factors have considerable effects on the pottery production; as well it suggests that a great interpretation can be elicited when involving the hypothetical consideration of external factors affecting the pottery production.

5.2.2 Methodological Contribution

Regarding to the empirical function of SEM and PLS, the results yielded particularly in the field of ethno-archaeological, anthropological, and aesthetical studies could contribute to the human and aesthetic knowledge of these fields. As a reliable statistical method, SEM has been featured by the variances in terms of statistical techniques for path modelling and analysis, analysis of variance and multiple linear regression, and then confirmatory factor analysis. However, it has been noted widely that the method analysis of Structural Equation Modelling SEM, as well the method of analysis using PLS software was employed for the purpose of obtain precise analysis in various scopes. However, some recent studies (Throsby, 1994; Hulland, 1999; Glocker, 2012) have utilized the method of Structural Least Square [SEM] particularly in socioeconomic approach of pottery production. In our research, the predicted external factors were dealt as theoretical constructs; while, the two elements of pottery production [types of pottery and techniques of pottery production] were tested as endogenous latent variables. The advantage of partial least square method is to lead multiple indicators to be linked conceptually and statistically with their own single predictive variables (latent constructs). Such way of analysis assists to overcome the weakness observed evidently in the quantitative methods using the manifest variables as a direct connection to the endogenous latent construct in both techniques multiple regression and linear correlation. Additionally, the method analysis of SEM using PLS technique enables distinctively measurement model to handle reflective and formative indicators in different constructs within a single model. Therefore, this flexible aspect of

PLS path modelling is more reliable for conducting reflective or formative manifested indicators. The method of SEM analysis along with PLS has been chosen according to its nature features to be appropriate for exploratory type of study, which lacks supportive theoretical evidences that are employed for developing the structure of designed model.

In conclusion, current study in compare to the relevant similar studies (Ellen & Glover, 1974; Solheim, 1964; Vaughn, 2012) is predicted, that the strength of model designed along with the rigorous technique chosen accordingly would contribute to sophisticate relevant studies in the several fields of art aesthetic, production of handicraft and other relevant products; as well ethnic, humanities, and social studies. Alongside, current study is derived to improve the theoretical model, which is generated from a set of studies used in the literature review section, and to express the complex of concepts and perspectives are practised in one valuable model.

5.2.3 Practical Contribution

The value of the current study's findings is embedded at contributing in other relative organizations with practical benefits that are valuable not only for the specialists but also for all who are involved in any filed related to pottery, such as craftsmen, artists, batik artists, carvers and other interested researchers in applied art, economic, ethnography, and anthropology. The contribution of such study is summarised as following: first, potters, subjectively, are targeted to be addressing in our model. Thus, potters are suggested generally to concentrating on the utilitarian products than decorative products of pottery. All findings yielded in our study point that the utilitarian principle in Malaysian artificial production is the fundamental purpose for producing pottery; and at the same time are regarded the frequent kind of pottery which potters often are interested to make. However, decorative products are not in frequent use as

utilitarian products. Thus, decorative types of pottery are produced based on potters' tendency to show up their talent or to follow some specific modern styles. Besides, current study encourages firmly potters to pay attention towards pottery in aesthetic method for even utilitarian products. Therefore, it is encouraged potters to produce such types of pottery with the intention to highlight the aesthetic aspects in their products.

Secondly, this study illustrates that when following the utility principle only without focusing on the aesthetic aspects, other multi-faceted of pottery production principles will be neglected such creativity in performing pottery. Therefore, our study stimulates -in the case of utilitarian products- to focus on both the utility and the goodness of performance at the same time to obtain satisfied results. Empirically, using the production model as evaluation tool for analyzing the two levels [utilitarian and creative performance] would assist to empowering the quantitative and qualitative characteristics in the products.

Thirdly, current study suggests that, the two dimensions socioeconomic and socio-culture are constituent of several external factors. In other word, these factors convey a set of indicators, which represent the content of latent variables and used to reflect the features of the pottery production. Accordingly, my study recommends highly the potential factor of market status to be the strong factor affecting potters and the pottery production, and then followed by the economic factor, which has the same affect. Additionally, our study indicates that, the concepts articulated by the endogenous construct - [pottery production] - highlights the idea of that, endogenous concept is not sufficient to capture all the influences came from a single latent variable independently without the need to be linked by other factors.

Fourthly, the fieldwork survey was designed to contribute in enriching other studies and interested researchers such as anthropological, social, ethnographical, and art pioneers. According to the results yielded in our research, the survey of current study

bears unique insights that might be useful for ethno-archaeologists, anthropologists, artists, and economists including with some specialists working with government's organizations of handicraft production. Yet, survey of production' involvement would assist to get clearest and more reliable results that contribute for development and assessment of pottery production.

In conclusion, our research enables to provide several valuable contributions in the field of pottery production when using the techniques of structural equation modelling [SEM], with the analysis technique of partial least square [PLS].However, the value of study is apparently stressed through the limitations of study. The next part of our study centralizes the limitation encountered researcher during handling research generally, and the limitations in conducting survey; and other limitation in analyzing using specific measurements of SEM and PLS methods.

5.3 Limitations

This section discusses the most related limitations and challenges that were found in the section of data analysis.

5.3.1 Limitations on the Survey

The survey used in current study is considered to utilize self-administration method for collecting data. Thus, the technique conducted for designing such survey, as any survey of a fieldwork study was carried out with existence some general limitations. Initially, researcher encountered with difficulties in the first stage of data collection in respect to find appropriate method of communication with the respondents, as the scientific language is not perfectly valid in our case. Thus, researcher avoided such constrain by getting assistance by specialist translators.

Secondly, for the purpose of avoid misunderstanding of some parts of survey, and occurring ambiguity in responses, researcher within the questionnaire has provided

flexibility for the respondents upon several options of response. Additionally, researcher has created multiple of options in order to bring more opportunities for explanation.

Finally, researcher has paid attention for the outline of formatting, and other features of interface design in order to avoid existence a massy or irregularity in the general outline of formatting.

In conclusion, considering to all these constrains, the survey designed for handling our study could overcome these limitations and gets a precise, clear design of survey that is entirely consistent with different surveys applied for relative studies.

5.3.2 Limitations on Measurement

Our present study is underlying several of limitations in terms of the measurement scales. Initially, most of the measures in the present study depend on the method of self-report, and as a result, researcher relied on the participants' insights and awareness that are vulnerable some times for responses bias. Such sorts of responses are often measured without validity scales. Yet, targeted respondents for explaining their experience of making pottery, they were required to share their knowledge retrospectively, as this technique has a risk of getting less accurate upon the responses. Concerning to the measures of pottery production, current study has drawn to evaluate two directions of measures for assessing the pottery production that are, selected types of pottery and the techniques used in pottery production. However, current study has excluded the measurement of quantities of pottery products and the amount of unused/broken pieces of pottery due to the limitation of time restricted for conducting our research. In other hand, the present study was limited to examine a set of potential external factors that are hypothesized to be affected on pottery through (Potters and/or producers).Whereas, it has neglected examining the influential factors that might affect the potters from the side of buyers and their effective role on changing the path of

pottery production. As well, the study did not take in account the constraints that might be impeded the potters and the buyers to get the satisfaction situation when involving in the pottery production as effective members due to this might create additional volume in the survey and need widely to measure the statement scales accurately. Consequently, adding additional measurement scales to the survey contextually would make it heavy to be assimilated by the respondents. Therefore, such measures were left as contribution for further studies.

Eventually, the findings obtained from our study might be considered to generalize upon specific elite of population, who have similarity to the potters' characteristics such as craftsman, batik artists, and sculptor. Yet, the targeted respondents selected in our study are those potters who are employed by governmental organizations; and the others who are involved with the semi-governmental organizations such manufacturer; and those who are working independently as holder of private company; and finally the types of household potters.

5.3.3 Limitations on SEM with PLS Technique

This study follows the instructions of statistical outline of SEM and PLS techniques, which is characterised by its bias while possess parameter estimates. Restricting the nature of relationships between the potential variables (factors) and pottery production by using PLS method indicates that PLS overestimates the relations between latent constructs and their indicators; while underestimates the coefficients path recorded in the path modelling. However, Chin (1998) emphasizes that the aspect of bias can be vanished if the volume of sample size increases and the indicators linked properly to each latent constructs. In addition to the relations between latent constructs with the indigenous of pottery production that was constituted in form of formative indicators; statistically formative measurements should be complete and comprehensive.

With taking previous-mentioned constrains in mind, researcher was keen to increase the level of indicators for each latent variables and the sample size as well. However, there have been some constrains during operation the model for handling all manifested indicators statistically. Therefore, the indicator that was resulted of weak value was eliminated from the model.

In the operation system of PLS method of analysis, despite the types of manifest variables get special importance as illustrative concepts, but these variables are not able to connect directly to the constructs in the pottery production or vice versa.

5.4 Direction for Future Research

There are fundamentally three basic trends for determining the central lines of future researches. These trends are involved subjectively with the limitations of, (1) to match the same operational model with the other studies in different fields; (2) to enhance or modify the present model provided by our study; (3) to install the research design on other units of analysis such as social activities and government role; and (4) the influences of loss and profit on pottery production.

5.4.1 Replicating the Operational Model in Other Fields

As was pointed in the previous section, the results obtained in current study built upon the fieldwork survey. Therefore, for generalizing the findings, it is required to replicate the same findings found or modify the same model then accomplish it to the other industries set in different sections of manufacturing field. Particularly, the more appropriate discipline for applying the current model is the fields related to the social sciences generally and human studies in particular.

According to the efforts paid during data collection, there have been some difficulties emerged within activities made in the fieldwork, as the most respondents- particularly the rural potters- were afraid to mix readily with foreigner persons, and are

unaware how to explain and share their knowledge with others. Therefore, with these kinds of potters, researcher relied intensively on the survey and translator's communication. While, researcher have been involved personally with the other type of potters who are educated and have a skilled communication.

Worthy to mention that our research addresses pottery issues from new and different approaches; therefore, such aspect in our study is privilege but difficult at the same time. This would grant current study an opportunity to construct a strong framework model and improve it by future studies. Therefore, the units of analysis should be tested carefully to provide a strong evidences in order to strength expected aspect of our proposed model.

5.4.2 Modifying Current Models

The conceptual model along with the operational model are concerned to be developed when are applied on a new ideas. For instance, getting free of limitation would assist to conceptualize the potential external factors broadly and can assist to add other latent constructs such as sale incentives, the mutual relationship between potters with buyers, and potters with salespeople, and purchase motivations. Additionally, as more concepts can be added, the potentiality of weakness indicators and constructs will be less; as well, that will lead to comprehensive structure of operational model. For instance, it was investigated to discover the relationship between potters and agriculture for long decades. Recently, it is found out by Austin (1981) that quantity of pottery products and level of skills resulted of the part-timer potters (involving other activity such as agriculture) are less and low quality than those full-timer potters. Interestingly, availability and/or time-effect were considered in our model by different concept that was fallen in economic factor under the definition of depending on pottery.

Another contribution is to make a suggestion for future study about employ the perception of agriculture as a latent construct in any study of pottery; and then multiply the indicators are thought to be influenced on pottery in the conceptual model. Moreover, for the plan, the current conceptual model might be attracted for future studies to improve the present survey, which is advised to be designed with multiple definitions in order to enhance the quality of results. For instance, conducting multiple questions that address a single latent construct, the ability of judge rationally would be increased and then there will be more options are available to obtain rational responses.

Eventually, for obtaining acceptable results in the operational model, there was a need to create a set of second order of latent constructs that are statistically generated from the first order constructs. This had led to examine the validity and reliability for each construct carefully before determining the final proposed model, and could give the aspect of accuracy highly to the current model.

5.4.3 Applying the Research Design to Other Units of Analysis

The results obtained during analyzing our concerned data are indeed compatible with the further researches' findings when accomplish the results on other units of analysis. For example, current study suggests potential directions and pays attention on investigating the factors that are perhaps influenced the convenient potters in one hand and influence pottery production from other hand. Unlike, Redzuan & Fariborz's (2011) study which use conceptually a qualitative method of approaching a set of constrains in the handicraft industries. Therefore, our study would be valuable research for such quantitative and qualitative studies conducted in the same field.

Furthermore, a new contribution can be elicited from our proposed model that strives to improve the techniques used in our model. In other concern, other factors such as social psychological factors are suggested to be addressing pottery production from

other relevant perspectives such as sociology and psychology. Worthy to mention, a set of sociological influential factors that drive potters to communicate with buyers could be also proposed in such model. Likewise, constrains of production, and sociological factors might be sought as a contribution for future studies.

For further extent, by running the design of conceptual model and transform it to the operational model, selected factors such as economic and government's initiative, which have investigated from different sides of pottery production, can answer the main question of Hassan's study (1990) about the role of handicraft that might be applied toward activate the movement of touristy in Malaysia. According to the findings, the quantitative approach is recommended in our model. As well, other studies may take advantage from our model; and might attempt to investigate the behavioural and motivational factors in the potters. Accordingly, these kinds of studies are targeted to continue our scientific track and assert generally the notion of potters' sensual interaction and communication with the surrounded environment. From the technological view, quantitative approach is the accurate way for testing our predicted model; and is workable for most practical viewpoints that might be applied in the future studies.

5.5 Summary of Chapter

Contextually, the present study is regarded primary step for investigating the type of relationships that might connectively link potters to a set of external potential factors. With following the contributions presented in current chapter, our presented study can successfully contribute to other relevant studies through exploring the extent impact of external factors [market status, government's initiative, economic factor, in addition to ritual, social, and ecological factors] on pottery production [types of pottery products, and techniques of pottery production]. Yet, the current exploratory study had

conducted conceptually methodological, theoretical, and practical contributions based on two fundamental dimensions: [socioeconomic, socio-culture], as these dimensions have been discussed intensively in the last two decades through different disciplines.

Moreover, there has been some limitations in the survey, measurement, and the technique of SEM and PLS methods of analysis that have been discussed in detail in the current chapter. It is envisioned that, this research could be replicated in other displines of the arts. Likewise, this research was designed with a hope to improve and extend its conceptual and operational models.

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SUPPLEMENTARY

LIST OF PUBLICATIONS

AL-Dhamari, A. Faiza; Abd-latiff, B. Zainal., Al-baity, S. Mohamed., (2014). An Ethnic-archaeological Study of Ceramic Status in Penisular Malaysia: The Salient Issues of Ethno-archaeological Ceramic. *Pensee Journal*, vol. 76, issue. 4.

Al-Dhamari, A. Faiza. (2013) Analytical Study of Ethno-Archaeological Ceramic,under press, *journal of Pertanika Journal of Social Science* (JSSH), Pp:1-26.

Al-Dhamari. A Faiza. (2013) An Ethno-Archaeological Study of Ceramic Status in Peninsula Malaysia: The salient Issues of Ethno-Archaeological Ceramic, under press, *journal of Inter-Asia Culture Studies*, Thailand, Pp: 1-30.

Al-Dhamari, A. Faiza; Khan. M. Sabzali (2012). *Ethnographical Study of Pottery*: A Contribution In Pottery Technology, Distribution And Consumption In The Selective Samples of Peninsula Malaysia, Lap Lambert Academic Publishing, P: 96.

APPENDIX A

Cover Letters of Self-Administrated Questionnaire

UNIVERSITI MALAYA

27 November 2012

Jabatan Perangkaan Malaysia
Blok C6, Kompleks C
Pusat Pentadbiran Kerajaan Persekutuan
62514 PUTRAJAYA)
(u.p: Pegawai Yg Berkenaan)

Tuan/Puan,

PENGESAHAN PELAJAR :
FAEZA AHMED AL DHAMARI (RHA090004) - YEMEN

Dengan segala hormatnya perkara di atas adalah dirujuk.

Adalah dengan ini disahkan bahawa penama di atas merupakan seorang calon Doktor Falsafah yang sedang dalam proses mengumpul bahan penyelidikan untuk menulis tesis bagi pencalonan ijazah Doktor Falsafah beliau.

Oleh yang demikian, adalah sangat diharapkan agar pihak tuan/puan dapat memberikan kerjasama terhadap sebarang aktiviti yang beliau lakukan untuk kajian lapangan beliau seperti berikut:

Program:	**Doktor Falsafah (PhD)**
Tajuk Penyelidikan:	**AN ETHNOARCHUOLOGICAL STUDY OF DEVELOPMENT DESIGN OF POTTERY. CASE STUDY: PENINSULAR MALAYSIA**
Bidang Penyelidikan:	**Visual Art**
Penyelia:	**Dr. Sabzali Musa Kahn**

Sekiranya terdapat sebarang pertanyaan, tuan/puan boleh menghubungi saya di talian 03-79673349.

Terima kasih di atas perhatian dan kerjasama daripada pihak tuan/puan.

Sekian untuk makluman.

Yang benar

MUHAMMAD IZWAN EFFENDI
Penolong Pendaftar (Ijazah Tinggi & Penyelidikan)
Pusat Kebudayaan
Universiti Malaya

MIE/-/surat pnkanpenyelidikan)

PUSAT KEBUDAYAAN • CULTURAL CENTRE
Universiti Malaya, 50603 Kuala Lumpur
Tel: (603) 7967 3454 / (603) 7967 3288 • Faks: (603) 7967 3576
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UNIVERSITI
MALAYA

27 November 2012

Kementerian Penerangan Komunikasi dan Kebudayaan
Lot 4G9, Persiaran Perdana
Persint 4
Pusat Pentadbiran Kerajaan Persekutuan
62100 PUTRAJAYA
(u.p: Pegawai Yg Berkenaan)

Tuan/Puan,

PENGESAHAN PELAJAR :
FAEZA AHMED AL DHAMARI (RHA090004) - YEMEN

Dengan segala hormatnya perkara di atas adalah dirujuk.

Adalah dengan ini disahkan bahawa penama di atas merupakan seorang calon Doktor Falsafah yang sedang dalam proses mengumpul bahan penyelidikan untuk menulis tesis bagi pencalonan ijazah Doktor Falsafah beliau.

Oleh yang demikian, adalah sangat diharapkan agar pihak tuan/puan dapat memberikan kerjasama terhadap sebarang aktiviti yang beliau lakukan untuk kajian lapangan beliau seperti berikut:

Program:	**Doktor Falsafah (PhD)**
Tajuk Penyelidikan:	**AN ETHNOARCHUOLOGICAL STUDY OF DEVELOPMENT DESIGN OF POTTERY. CASE STUDY: PENINSULAR MALAYSIA**
Bidang Penyelidikan:	**Visual Art**
Penyelia:	**Dr. Sabzali Musa Kahn**

Sekiranya terdapat sebarang pertanyaan, tuan/puan boleh menghubungi saya di talian 03-79673349.

Terima kasih di atas perhatian dan kerjasama daripada pihak tuan/puan.

Sekian untuk makluman.

Yang benar,

MUHAMMAD IZWAN EFFENDI
Penolong Pendaftar (Ijazah Tinggi & Penyelidikan)
Pusat Kebudayaan
Universiti Malaya

MIF/(i)surat(ii)kenpenyelidikan)

UNIVERSITI MALAYA

27 November 2012

Y.Bhg. Dato' Mohd Kamil bin Mohd Ali
Ketua Pengarah
Perbadanan Kemajuan Kraftangan Malaysia
Kompleks Kraf Kuala Lumpur
Section 63, Jalan Conlay
50450 KUALA LUMPUR

Tuan/Puan

PENGESAHAN PELAJAR :
FAEZA AHMED AL DHAMARI (RHA090004) - YEMEN

Dengan segala hormatnya perkara di atas adalah dirujuk.

Adalah dengan ini disahkan bahawa penama di atas merupakan seorang calon Doktor Falsafah yang sedang dalam proses mengumpul bahan penyelidikan untuk menulis tesis bagi pencalonan ijazah Doktor Falsafah beliau.

Oleh yang demikian, adalah sangat diharapkan agar pihak tuan/puan dapat memberikan kerjasama terhadap sebarang aktiviti yang beliau lakukan untuk kajian lapangan beliau seperti berikut.

Program:	**Doktor Falsafah (PhD)**
Tajuk Penyelidikan:	**AN ETHNOARCHUOLOGICAL STUDY OF DEVELOPMENT DESIGN OF POTTERY. CASE STUDY: PENINSULAR MALAYSIA**
Bidang Penyelidikan:	**Visual Art**
Penyelia:	**Dr. Sabzali Musa Kahn**

Sekiranya terdapat sebarang pertanyaan, tuan/puan boleh menghubungi saya di talian 03-79673349.

Terima kasih di atas perhatian dan kerjasama daripada pihak tuan/puan.

Sekian untuk makluman.

Yang benar,

MUHAMMAD IZWAN EFFENDI
Penolong Pendaftar (Ijazah Tinggi & Penyelidikan)
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APPENDIX B

Dear Potters, Enterpriser and workers,

We are requesting your kind assistance and cooperation in answering the items of this questionnaire. The purpose of the survey is to investigate the issues affect on improving the process of pottery production and may impede appearance an enhancement image of pottery manufacture all through your sincere opinion. Thus, on the basis of your response and those of others like you, this study hopes to get a better knowledge about the state of pottery as part of handicraft in Malaysia, and present suggestions for raising the obstacles of manufacturing process, as well propose the needed measures to create appropriate atmosphere for potter for the advanced process.

Please feel free in indicate your response in the appropriate space provided. Your views/opinions shall be treated in high and utmost confidentiality, as the responses are meant for research purpose only.

Thank you.

Faiza A. Al-Dhamari

GENERAL INSTRUCTION

This survey comprises two main parts: (Demographic and Item Sections). Part 1 consists of a list of demographic variables. Your are kindly required to choose the option applicable to you by tick in the box beside each option. The second part consists of 5 sections, while the latter section contains 3 sub-section (A,B,C). Each section contains a set of items placed under it. Please read the preceding instructions associated with each section and provide your response accordingly.

PART 1: DEMOGRAPHIC INFORMATION

INSTRUCTION: please indicate the option applicable to you from the list of information below by tick in the attached box (√):

1. **Age:** 18-25 ○ 26-40 ○ Above 40 ○
2. **Gender:** Female ○ Male ○
3. **Race:** Malay ○ Chinese ○ Indian ○ Other Race ○
4. **Material Status:** Single ○ Married ○
5. **Educational level:** Below High School ○ 2-year college (Diploma) ○ 4-year college (BA) ○ Master's degree ○ Doctroal degree ○ None ○
6. **Company Belonging to:** Craft Complex ○ Craft Factory ○ private Company/Craft shop ○
7. **Type of Work:** Governmental sector ○ Private Sector ○
8. **Current Place of Resident:** Perak ○ Johor ○ Penang ○ Kedah ○ Melaka ○ Negeri Sembilan ○ Kuala Lumpur ○ Lain-lain negeri ○

9. **Total Household Income Per Month:** <RM 5000 ○ RM 5000-9999 ○ RM 10,000-24,999 ○ RM 25,000-49,999 ○ >RM 50,000 ○

PART 2: ITEM SECTIONS

SECTION 1

INSTRUCTION: please indicate your level of agreement or disagreement with the items listed below.

MS ITEMS	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
MARKET STATE:Order					
10- With increasing demand, production of ceramic is also increased.	**5**	**4**	**3**	**2**	**1**
11- Existence huge number of clients contributes in increasing the value of goods	**5**	**4**	**3**	**2**	**1**
12- Existence special demand from high income of clients encourage producing better quality of pottery	**5**	**4**	**3**	**2**	**1**
Consumption					
13- High rate of consumption indicates that my products are made in high quality	**5**	**4**	**3**	**2**	**1**
14-High rate of consumption contributes for enhancing production	**5**	**4**	**3**	**2**	**1**
15-Low consumption of pottery products decreases the rate of production	**5**	**4**	**3**	**2**	**1**
Cost					
16- Increasing the cost of materials pottery decreases producing big sizes of pottery	**5**	**4**	**3**	**2**	**1**
17- In the case of increasing pottery materials cost, products will be made in small sizes to reduce the cost	**5**	**4**	**3**	**2**	**1**
18- Increasing the cost of pottery materials causes producing pottery with existence the demand only	**5**	**4**	**3**	**2**	**1**
19- Decreasing the cost of pottery materials multiplies products quantities	**5**	**4**	**3**	**2**	**1**
Profit					
20- Profit assists multiplying the quantities of pottery products	**5**	**4**	**3**	**2**	**1**
21- Increasing profit encourages for enhancing pottery products	**5**	**4**	**3**	**2**	**1**
22- Increasing profit encourages fordiversification in technical production skills	**5**	**4**	**3**	**2**	**1**
Losses					
23- Possibility of losses in certain type of pottery does not encourage for producing it in much quantities	**5**	**4**	**3**	**2**	**1**
24- Potentiality of losses in the production double producing the type of pottery desired in the market place	**5**	**4**	**3**	**2**	**1**
Promotion					
25- Promoting pottery products in market place leads to multiplying pottery products	**5**	**4**	**3**	**2**	**1**
26- Promoting pottery products enhances their quality through increasing consumption of products	**5**	**4**	**3**	**2**	**1**
27- Promoting pottery helps to diversify the skills in the production	**5**	**4**	**3**	**2**	**1**
Knowledge		**4**	**3**	**2**	**1**
28- Getting to know the actual reasons of losses in production assists to avoid many losses	**5**				
29- Identifying the market place's requirements enhance pottery production through commitment in production's accuracy	**5**	**4**	**3**	**2**	**1**
30-Getting to know market's requirements diversify pottery production by depending on potters' experience in market place	**5**	**4**	**3**	**2**	**1**
Planning					
31- Drawing earlier plan multiplies pottery production through precise plans made for profit.	**5**	**4**	**3**	**2**	**1**
32- Drawing a plan in advance enhances pottery in which ensure a good profit.	**5**	**4**	**3**	**2**	**1**
33-Drawing a plan in advance diversifies the skills of production through the availability of production options.	**5**	**4**	**3**	**2**	**1**

SECTION 2

Please indicate your level of agreement or disagreement with the items listed below.

GI ITEMS	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
GOVERNMENT'S INITIATIVE: Government Activities					
34- Participating in governmental activities (National craft day, Kl festival) reinforces production skills through gaining new experiences	**5**	**4**	**3**	**2**	**1**
35- Governmental activities contributes in increasing products through motivating the potters	**5**	**4**	**3**	**2**	**1**
36- Governmental activities improve pottery products with increasing consumption of product	**5**	**4**	**3**	**2**	**1**
Financial Governmental Supporting					
37- Financial support of government diversifies pottery products through diversification of granted opportunities	**5**	**4**	**3**	**2**	**1**
38- Financial support of government develops pottery production through running competitions among potters	**5**	**4**	**3**	**2**	**1**
39- Financial support of government motivates increasing products through raising labourers' wage	**5**	**4**	**3**	**2**	**1**
Governmental Coordination					
40- Governmental coordination helps in strengthen potters' skills by linking them to each other	**5**	**4**	**3**	**2**	**1**
41- Governmental coordination regulates pottery production through regional distribution system	**5**	**4**	**3**	**2**	**1**
42- Governmental coordination contributes diversifying pottery production through differing the regional distribution	**5**	**4**	**3**	**2**	**1**
Facilitating Potters					
43- Facilities (e.g., clay, wheel, firing place, electronic oven. etc) given by gove rnment motivate to produce more pottery products	**5**	**4**	**3**	**2**	**1**
44- Facilitates given by government enhance the performance through saving potters' time for creativity	**5**	**4**	**3**	**2**	**1**
45- Providing raw materials given by government contributes in diversification of potteries' sizes and quality	**5**	**4**	**3**	**2**	**1**

SECTION 3

Please indicate your level of agreement or disagreement with the items listed below.

EF-EF ITEMS	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
ECONOMIC FACTOR: Depending in Pottery					
46- Relying on pottery as a sole source of livelihood motivates to multiply pottery production	**5**	**4**	**3**	**2**	**1**
47-Rely on another source of income does not provide sufficient time to develop skills	**5**	**4**	**3**	**2**	**1**
48- Rely on another source of livelihood weakens the quality of production	**5**	**4**	**3**	**2**	**1**
Income					
49- Providing bonuses added to the income from time to time motivates to multiply pottery products	**5**	**4**	**3**	**2**	**1**
50- Lack of income affect the ability of creativity in potters	**5**	**4**	**3**	**2**	**1**
51- Lack of income reduces the effort made in the pottery production	**5**	**4**	**3**	**2**	**1**

Members of Family					
52- Big family members facilitates to produce large quantities of pottery daily	**5**	**4**	**3**	**2**	**1**
53- Dividing the roles among the family members aids to save the effort and regularise the production	**5**	**4**	**3**	**2**	**1**
54- Big family members assist to enhance the production techniques through diversifying pottery production	**5**	**4**	**3**	**2**	**1**
ECOLOGICAL FACTOR: Authenticity					
55- Authenticity in production helps to continue using traditional techniques of pottery	**5**	**4**	**3**	**2**	**1**
56- Authenticity in production does not conflict with non-traditional techniques of pottery	**5**	**4**	**3**	**2**	**1**
57- Authentic products require high skills for simulating the techniques inherited from forefathers	**5**	**4**	**3**	**2**	**1**
58- Authentic pottery increase in the traditional society when particularly increase the demand for authentic pottery	**5**	**4**	**3**	**2**	**1**
Ethnicity					
59- Having different races in one group helps to diversity the performance of pottery production	**5**	**4**	**3**	**2**	**1**
60- Dealing with different races in one group grows up different skills through gaining different experiences	**5**	**4**	**3**	**2**	**1**
Gender					
61- I cannot produce pottery regularly when I am holding household responsibility	**5**	**4**	**3**	**2**	**1**
62- I am able to produce large quantities of pottery with handling another business	**5**	**4**	**3**	**2**	**1**
63- I am often interested to highlight small aesthetical details through different techniques of surface decoration in my products	**5**	**4**	**3**	**2**	**1**
64- I cannot stand the small details and I ‘am more into general lines of surface techniques	**5**	**4**	**3**	**2**	**1**
Regional Differences	**5**	**4**	**3**	**2**	**1**
65- Shifting to different regions develops the skills of pottery production					
66- Switching to different regions diversifies the techniques of production through mixing different authentic elements	**5**	**4**	**3**	**2**	**1**
67- The various techniques taken from different regions gain pottery’s design the aspect of uniqueness	**5**	**4**	**3**	**2**	**1**

SECTION 4

Please indicate your level of agreement or disagreement with the items listed below.

RF-SF **ITEMS**	**Strongly Agree**	**Agree**	**Undecided**	**Disagree**	**Strongly Disagree**
RITUAL & SOCIAL FACTORS: Ritual Discrimination					
68- Utilitarian products are more producing due to most of these products associate with religious’ needs	**5**	**4**	**3**	**2**	**1**
69- Pottery made for religious purposes characterizes into precise techniques in order to meet people' ideology	**5**	**4**	**3**	**2**	**1**
70- Working with different groups of various religious assist to change the techniques of ritual products	**5**	**4**	**3**	**2**	**1**
Intellectual Discrimination					
71- Producing pottery for religious occasions is the direction way for showing the intellectual beliefs	**5**	**4**	**3**	**2**	**1**
72- Diversity of intellectual trends lead to the diversity of production techniques	**5**	**4**	**3**	**2**	**1**
73- Diversity of intellectual trends drives to building skills gained from intellectual differences.	**5**	**4**	**3**	**2**	**1**
Identical Discrimination					
74- Potters' identity determine the available options for pottery production	**5**	**4**	**3**	**2**	**1**

75- Potters' identity reveal the different skills of potters	**5**	**4**	**3**	**2**	**1**
76- Potters' identity is confirming from through the scale of production	**5**	**4**	**3**	**2**	**1**
SOCIAL FACTOR: Social Correlations					
77- The broad social correlations helps to improve potters' skills through exchange experiences	**5**	**4**	**3**	**2**	**1**
78- The broad social correlations enhance pottery techniques through expanding mental cognition	**5**	**4**	**3**	**2**	**1**
79- The broad social correlations improve the ability to assimilate other cultural aspects	**5**	**4**	**3**	**2**	**1**
Interaction					
80- Involving with other potters in several regions assists to reinforce the spirit of competition	**5**	**4**	**3**	**2**	**1**
81- Involving with other potters in several regions improve the production through the utilitarian exchange of local materials	**5**	**4**	**3**	**2**	**1**
82- Involving with other potters in several regions grows up the potters' skills through exchange artistic experiences	**5**	**4**	**3**	**2**	**1**
Training Courses					
83-The training courses contributes in enhancing the beginner potters' performance	**5**	**4**	**3**	**2**	**1**
84- The training courses contribute in potters' capability to double the production	**5**	**4**	**3**	**2**	**1**
85- The training courses builds up the potters' skill of pottery production	**5**	**4**	**3**	**2**	**1**
86- Participating in training courses builds up the potters' skills in transactions with real consumers.	**5**	**4**	**3**	**2**	**1**

SECTION 5

INSTRUCTION: Rink the rate of the amount of your production with selecting the proper rate below

A- How much do you often produce such kind of products?

MS	**ITEMS**	Please select the quantities of pieces here
87- Utilitarian product (platters, Mugs, Bowls, Vessel, Urns, Pots, pitcher. etc)		
88- Luxury product (Vases, Constructed Animal shape, Constructed geometric shape, constructed abstract shape. etc)		
89- Souvenir Products		

INSTRUCTION: Rank the rate of your preference with selecting the proper rate below

B- Which type of products do you often produce frequently? <u>You may select all types</u>

MS	**ITEMS**	**Very Much**	**Much**	**Not at all**	**Little**	**Very Little**
90- Platters						
91- Mugs						
92- Bowls						
93- pitcher						
94- Urns						
95- Pots						
96- Vessel						
97- Vases						
98- Complementary House Furniture (e.g., Constructed Animal Shape, Constructed Geometric Shape, Constructed Abstract Shape..etc)						

INSTRUCTION: Rank the rate of the skilful techniques used frequently in your products with selecting the proper rate below

C- Which type of skilful techniques do you often prefer to use in your product? You may select all types

MS ITEMS	Very Much	Much	Not at all	Little	Very Little
99- Hand-built (Coiling)					
100- Casting					
101- Wheel					
102- Moulding					
103- Machinery equipments					

Thank you for sharing with us your precious time and opinion.

Kepada para pembuat tembikar, para pengusaha dan pekerja,

Kami memerlukan bantuan dan kerjasama anda untuk menjawab beberapa perkara dalam soal selidik ini. Tujuan kajian ini adalah untuk menyiasat isu-isu yang menjejaskan penambahbaikkan proses pengeluaran tembikar dan boleh menghalang peningkatan imej para pembuat tembikar melalui pendapat ikhlas anda. Oleh itu, atas dasar tindak balas anda dan juga orang-orang lain, kajian ini diharapkan dapat memberikan pengetahuan yang lebih baik tentang keadaan tembikar sebagai sebahagian daripada kraftangan di Malaysia, dan dapat memberikan cadangan bagi mengatasi halangan proses pembuatan, serta mencadangkan langkah-langkah yang diperlukan untuk mewujudkan suasana yang sesuai kepada para pembuat tembikar untuk lebih maju.

Sila luangkan sedikit masa untuk memberikan respon anda di dalam ruang yang telah disediakan. Pandangan/pendapat anda akan dirahsiakan, kerana respon anda hanyalah untuk tujuan penyelidikan sahaja.

Terima kasih.

Faiza A. Al-Dhamari

ARAHAN UMUM

Kaji selidik ini terdiri daripada dua bahagian utama: (Seksyen Demografik dan Perkara). Bahagian 1 terdiri daripada senarai pembolehubah demografi. Dengan segala hormatnya, anda dikehendaki memilih pilihan yang diberikan kepada anda dengan menanda di kotak di sebelah setiap pilihan. Bahagian kedua terdiri daripada 5 bahagian, yang mengandungi 3 sub-seksyen (A, B, C). Setiap bahagian mengandungi satu set perkara-perkara yang diletakkan di bawahnya. Sila baca arahan yang terdahulu yang berkaitan dengan setiap bahagian dan berikan jawapan anda dengan sewajarnya.

BAHAGIAN 1: MAKLUMAT DEMOGRAFIK

ARAHAN: Sila tandakan pilihan yag diberikan kepada anda daripada senarai maklumat di bawah dengan menandakan (√) di kotak yang disediakan:

10. Umur: 18-25 ○ 26-40 ○ 40 ke atas ○

11. Jantina: Perempuan ○ Lelaki ○

12. Bangsa: Melayu ○ Cina ○ India ○ Lain-lain ○

13. Status perkahwinan: Bujang ○ Berkahwin ○

14. Tahap pendidikan: Sekolah ○ diploma ○ ijazah ○ Ijazah ○
Sarjana ○ Ijazah Kedoktoran ○ Tiada ○

15. Syarikat kepunyaan: Kompleks kraf ○ Kilang kraf ○ Kedai kraf/syarikat swasta ○

16. Jenis kerja: Sektor awam ○ Sektor swasta ○

17. Tempat tinggal sekarang: Perak ○ Johor ○ Penang ○ Kedah ○ Melaka ○ Negeri Sembilan ○ Kuala Lumpur ○ Lain-lain negeri ○

18. Jumlah pendapatan isirumah sebulan: <RM 5000 ◯ RM 5000-9999 ◯ RM 10,000 - 24,999 ◯ RM25,000-49,999 ◯ >RM 50,000 ◯

BAHAGIAN 2: SEKSYEN PERKARA

SEKSYEN 1

ARAHAN: Sila bulatkantahap persetujuan atau tidak setuju anda dengan perkara yang disenaraikan di bawah.

MS	PERKARA	Sangat Setuju	Setuju	Tidak Pasti	Tidak Setuju	Sangat Tidak Setuju
	KEADAAN PASARAN:Tempahan					
	10-Dengan peningkatan permintaan, pengeluaran seramik juga meningkat.	**5**	**4**	**3**	**2**	**1**
	11-Peningkatan tempahan untuk jenis tembikar tertentu akan memastikan kelarisan pembelian produk.	**5**	**4**	**3**	**2**	**1**
	12-Kewujudan tempahan istimewa di pasaran menggalakkan penghasilan tembikar yang berkualiti.	**5**	**4**	**3**	**2**	**1**
	Penggunaan					
	13-Kadar penggunaan yang tinggi menunjukkan produk saya berkualiti tinggi.	**5**	**4**	**3**	**2**	**1**
	14-Kadar penggunaan yang tinggi penanda aras kepada peningkatan pengeluaran.	**5**	**4**	**3**	**2**	**1**
	15-Penggunaan produk tembikar yang rendah menurunkan kadar pengeluaran.	**5**	**4**	**3**	**2**	**1**
	Kos					
	16-Peningkatan kos bahan tembikar mengurangkan pengeluaran tembikar bersaiz besar.	**5**	**4**	**3**	**2**	**1**
	17-Dalam kes peningkatan kos bahan tembikar, produk akan dibuat dalam saiz kecil untuk mengurangkan kos.	**5**	**4**	**3**	**2**	**1**
	18-Peningkatan kos bahan tembikar menyebabkan tembikar dihasilkan jika wujud permintaan sahaja.	**5**	**4**	**3**	**2**	**1**
	19-Pengurangan kos bahan tembikar menggandakan kuantiti produk.	**5**	**4**	**3**	**2**	**1**
	Keuntungan					
	20-Bantuan keuntungan memperbanyakkan kuantiti produk tembikar.	**5**	**4**	**3**	**2**	**1**
	21-Peningkatan keuntungan menggalakkan peningkatan produk tembikar.	**5**	**4**	**3**	**2**	**1**
	22-Peningkatan keuntungan menggalakkan kepelbagaian kemahiran teknikal pengeluaran.	**5**	**4**	**3**	**2**	**1**
	Kerugian					
	23-Kemungkinan untuk rugi dalam jenis tembikar tertentu tidak menggalakkan pengeluaran dalam kuantiti yang banyak.	**5**	**4**	**3**	**2**	**1**
	24-Potensi untuk rugi dalam pengeluaran menggandakan pengeluaran jenis tembikar yang dikehendaki di pasaran.	**5**	**4**	**3**	**2**	**1**
	Promosi					
	25-Mempromosikan produk tembikar di pasaran membawa kepada peningkatan produk yang digunakan.	**5**	**4**	**3**	**2**	**1**
	26-Mempromosikan produk tembikar meningkatkan kualiti tembikar dan penggunaan produk.	**5**	**4**	**3**	**2**	**1**
	27-Mempromosikan tembikar membantu mempelbagaikan kemahiran pengeluaran yang memecahkan kemelesetan pasaran.	**5**	**4**	**3**	**2**	**1**
	Pengetahuan	**5**	**4**	**3**	**2**	**1**
	28-Mengetahui sebab sebenar kerugian dalam pengeluaran membantu mengelakkan banyak kerugian.					
	29-Mengenal pasti peraturan tempat pasaran meningkatkan tembikar melalui komitmen terhadap ketepatan pengeluaran.	**5**	**4**	**3**	**2**	**1**
	30-Mengetahui peraturan pasaran mempelbagaikan pengeluaran	**5**	**4**	**3**	**2**	**1**

tembikar melalui pengalaman pembuat tembikar di pasaran.					
Perancangan					
31-Merancang pelan terlebih dahulu memperbanyakkan pengeluaran tembikar melalui ketepatan perancangan untuk memperoleh keuntungan.	**5**	**4**	**3**	**2**	**1**
32-Merancang pelan lebih awal meningkatkan pengeluaran tembikar yang mana memastikan keuntungan yang baik.	**5**	**4**	**3**	**2**	**1**
33-Merancang pelan lebih awal mempelbagaikan kemahiran pengeluaran melalui adanya pilihan pengeluaran.	**5**	**4**	**3**	**2**	**1**

SEKSYEN 2

Sila bulatkan tahap persetujuan atau tidak setuju anda dengan perkara yang disenaraikan di bawah.

GI **PERKARA**	**angat Setuju**	**Setuju**	**Tidak Pasti**	**Tidak Setuju**	**Sangat Tidak Setuju**
<u>INISIATIF KERAJAAN</u>: Aktiviti Kerajaan					
34-Penglibatan dalam aktiviti kerajaan (Hari Kraftangan Negara, Festival KL) mengukuhkan kemahiran pengeluaran melalui pengalamn baru	**5**	**4**	**3**	**2**	**1**
35-Aktiviti kerajaan menyumbang dalam peningkatan produk dengan memotivasikan pembuat tembikar	**5**	**4**	**3**	**2**	**1**
36-Aktiviti kerajaan menambahbaik produk tembikar dengan meningkatkan penggunaan produk	**5**	**4**	**3**	**2**	**1**
Sokongan Bantuan Kerajaan					
37-Bantuan kewangan daripada kerajaan mempelbagaikan produk tembikar melalui kepelbagaian peluang yang diberikan	**5**	**4**	**3**	**2**	**1**
38-Bantuan kewangan daripada kerajaan membangunkan pengeluaran tembikar melalui persaingan antara pembuat tembikar	**5**	**4**	**3**	**2**	**1**
39-Bantuan kewangan daripada kerajaan memotivasikan peningkatan produk melalui kenaikan gaji pekerja	**5**	**4**	**3**	**2**	**1**
Penyelarasan kerajaan					
40-Penyelarasan kerajaan membantu dalam menguatkan kemahiran pembuat tembikar di mana menghubungkan mereka antara satu sama lain	**5**	**4**	**3**	**2**	**1**
41-Penyelarasan kerajaan mengawal pengeluaran melalui sistem pengagihan wilayah	**5**	**4**	**3**	**2**	**1**
42-Penyelarasan kerajaan menyumbang kepada kepelbagaian pengeluaran melalui perbezaan agihan ke atas organisasi yang sesuai	**5**	**4**	**3**	**2**	**1**
Kemudahan pembuat tembikar					
43-Kemudahan (contoh tanah liat, roda, tempat bakar, ketuhar elektronik dan lain-lain) diberikan oleh kerajaan memberi motivasi untuk mengeluarkan lebih banyak produk tembikar	**5**	**4**	**3**	**2**	**1**
44-Kemudahan yang diberikan oleh kerajaan meningkatkan prestasi melalui penjimatan masa untuk kreativiti pembuat tembikar	**5**	**4**	**3**	**2**	**1**
45-Penyediaan bahan mentah yang diberikan oleh kerajaan menyumbang kepada kepelbagaian saiz dan kualiti tembikar	**5**	**4**	**3**	**2**	**1**

SEKSYEN 3

Sila bulatkan tahap persetujuan atau tidak setuju anda dengan perkara yang disenaraikan di bawah.

EF-EF PERKARA	Sangat Setuju	Setuju	Tidak Pasti	Tidak Setuju	Sangat Tidak Setuju
FAKTOR EKONOMI:Kebergantungan dalam pembuatan tembikar					
46-Bergantung kepada pembuatan tembikar sebagai pendapatan utama kehidupan memberi motivasi untuk memperbanyakkan pengeluaran tembikar	**5**	**4**	**3**	**2**	**1**
47-Bergantung kepada sumber pendapatan lain tidak menyediakan masa yang cukup untuk membangunkan kemahiran	**5**	**4**	**3**	**2**	**1**
48-Bergantung kepada sumber kehidupan yang lain melemahkan kualiti pengeluaran	**5**	**4**	**3**	**2**	**1**
Pendapatan					
49-Menyediakan bonus yang ditambah kepada pendapatan dari masa ke semasa memberi motivasi untuk memperbanyakkan produk tembikar	**5**	**4**	**3**	**2**	**1**
50-Kekurangan pendapatan menjejaskan kreativiti untuk mempelbagaikan produk	**5**	**4**	**3**	**2**	**1**
51-Kekurangan pendapatan mengurangkan usaha dalam pengeluaran tembikar	**5**	**4**	**3**	**2**	**1**
Ahli keluarga					
52-Ahli keluarga yang besar memudahkan untuk menghasilkan kuantiti tembikar yang banyak setiap hari	**5**	**4**	**3**	**2**	**1**
53-Pembahagian peranan antara ahli keluarga membantu untuk menjimatkan usaha dan selaraskan pengeluaran	**5**	**4**	**3**	**2**	**1**
54-Ahli keluarga yang besar membantu untuk meningkatkan teknik pengeluaran dengan meningkatkan bilangan penyertaan dalam aktiviti kraftangan	**5**	**4**	**3**	**2**	**1**
FAKTOR EKOLOGI: Ketulenan					
55-Ketulenan dalam pengeluaran membantu untuk terus menggunakan teknik tradisional dalam pembuatan tembikar	**5**	**4**	**3**	**2**	**1**
56-Ketulenan dalam pengeluaran tidak mempunyai konflik dengan teknik bukan tradisional dalam pembuatan tembikar	**5**	**4**	**3**	**2**	**1**
57-Produk yang tulen memerlukan kemahiran yang tinggi untuk mensimulasikan teknik yang diwarisi turun temurun	**5**	**4**	**3**	**2**	**1**
58-Meningkatkan pengeluaran tembikar yang tulen dalam masyarakat tradisi disebabkan peningkatan permintaan	**5**	**4**	**3**	**2**	**1**
Etnik					
59-Perbezaan bangsa dalam satu kumpulan membantu untuk mempelbagaikan prestasi pengeluaran tembikar	**5**	**4**	**3**	**2**	**1**
60-Berurusan dengan bangsa yang berlainan dalam satu kumpulan mengembangkan kemahiran berbeza melalui pengalaman berbeza yang diperolehi	**5**	**4**	**3**	**2**	**1**
Jantina					
61-Saya tidak dapat menghasilkan tembikar dengan kerap apabila saya memikul tanggungjawab rumahtangga	**5**	**4**	**3**	**2**	**1**
62-Saya dapat menghasilkan kuantiti tembikar yang banyak walaupun menguruskan perniagaan yang lain	**5**	**4**	**3**	**2**	**1**
63-Saya sering berminat untuk mengetengahkan nilai estetik yang kecil melalui teknik yang berbeza dalam hiasan permukaan dalam produk saya	**5**	**4**	**3**	**2**	**1**
64-Saya tidak boleh tahan dengan perincian yang kecil dan saya lebih tertumpu kepada garis umum teknik permukaan	**5**	**4**	**3**	**2**	**1**
Perbezaan wilayah	**5**	**4**	**3**	**2**	**1**
65-Bertukar ke wilayah lain membangunkan kemahiran pengeluaran tembikar					
66-Bertukar ke wilayah lain mempelbagaikan teknik pengeluaran melalui campuran element tulen yang berlainan	**5**	**4**	**3**	**2**	**1**
67-Teknik yang pelbagai diambil daripada wilayah berlainan memperoleh rekabentuk tembikar yang unik	**5**	**4**	**3**	**2**	**1**

SECTION 4

Sila bulatkan tahap persetujuan atau tidak setuju anda dengan perkara yang disenaraikan di bawah.

RF-SF	PERKARA	Sangat Setuju	Setuju	Tidak Pasti	Tidak Setuju	Sangat Tidak Setuju
ADAT & FAKTOR SOSIAL:Diskriminasi Adat						
68-Produk yang praktikal lebih banyak dihasilkan kerana kebanyakan produk ini berkait rapat dengan keperluan agama		**5**	**4**	**3**	**2**	**1**
69-Tembikar yang dibuat untuk tujuan agama dicirikan kepada teknik yang tepat supaya memenuhi ideologi orang ramai		**5**	**4**	**3**	**2**	**1**
70-Bekerja dengan kumpulan berbeza agama membantu untuk mengubah adat teknik produk		**5**	**4**	**3**	**2**	**1**
Diskriminasi Intelek						
71-Menghasilkan tembikar untuk majlsi keagamaan adalah hala tuju untuk menunjukkan kepercayaan intelek		**5**	**4**	**3**	**2**	**1**
72-Kepelbagaian aliran intelek membawa kepada kepelbagaian teknik pengeluaran		**5**	**4**	**3**	**2**	**1**
73-Kepelbagaian aliran intelek membawa kepada pembinaan kemahiran yang diperolehi daripada perbezaan intelek		**5**	**4**	**3**	**2**	**1**
Diskriminasi Seiras						
74-Identiti pembuat tembikar menentukan pilihan yang ada untuk penghasilan tembikar		**5**	**4**	**3**	**2**	**1**
75-Identiti pembuat tembikar mendedahkan kemahiran mereka yang berbeza		**5**	**4**	**3**	**2**	**1**
76-Identiti pembuat tembikar disahkan daripada skala pengeluaran		**5**	**4**	**3**	**2**	**1**
FAKTOR SOSIAL: Hubungan Sosial						
77-Hubungan sosial yang luas membantu untuk meningkatkan kemahiran pembuat tembikar melalui pertukaran pengalaman		**5**	**4**	**3**	**2**	**1**
78-Hubungan sosial yang luas meningkatkan teknik pembuatan tembikar dengan mengembangkan kognisi logam		**5**	**4**	**3**	**2**	**1**
79-Hubungan sosial yang luas menambahbaik keupayaan untuk menyerap aspek budaya lain		**5**	**4**	**3**	**2**	**1**
Interaksi						
80-Penglibatan dengan pembuat tembikar yang lain di beberapa wilayah membantu untuk mengukuhkan semangat persaingan		**5**	**4**	**3**	**2**	**1**
81-Penglibatan dengan pembuat tembikar yang lain di beberapa wilayah menambahbaik pengeluaran melalui pertukaran bahan tempatan yang praktikal		**5**	**4**	**3**	**2**	**1**
82-Penglibatan dengan pembuat tembikar yang lain di beberapa wilayah mengembangkan kemahiran pembuat tembikar melalui pertukaran pengalaman seni		**5**	**4**	**3**	**2**	**1**
Kursus Latihan						
83-Kursus latihan menyumbang dalam meningkatkan prestasi permulaan pembuat tembikar		**5**	**4**	**3**	**2**	**1**
84-Kursus latihan menyumbang dalam kebolehan pembuat tembikar untuk menggandakan pengeluaran		**5**	**4**	**3**	**2**	**1**
85-Kursus latihan membina kemahiran pengeluaran tembikar		**5**	**4**	**3**	**2**	**1**
86-Penglibatan dalam kursus latihan membina kemahiran pembuat tembikar dalam urus niaga dengan pelanggan sebenar		**5**	**4**	**3**	**2**	**1**

SEKSYEN 5

ARAHAN: Nyatakan kadar jumlah pengeluaran anda dengan memilih kadar yang bersesuaian di bawah.

D- Berapa banyak produk TEMBIKAR yang anda kerap hasilkan?

MS **PERKARA**	Sila pilih kuantiti pecahan di sini
87-Produk praktikal (pinggan, cawan, mangkuk, bekas, kendi, periuk, kuali dan lain-lain)	
88-Produk mewah (pasu, binaan bentuk haiwan, binaan bentuk geometri, binaan bentuk abstrak dan lain-lain)	
89-Produk cenderamata	

ARAHAN: Nyatakan kadar keutamaan anda dengan memilih kadar yang bersesuaian di bawah.

E- Produk jenis apakah yang anda kerapkali hasilkan? Anda boleh memilih semua jenis

MS **PERKARA**	**Sangat Banyak**	**Banyak**	**Tiada**	**Sedikit**	**Sangat Sedikit**
90-Pinggan					
91-Cawan					
92-Mangkuk					
93-Kuali					
94-Kendi					
95-Periuk					
96-Bekas					
97-Pasu					
98-Kelengkapan Perabot rumah (cth; Binaan bentuk haiwan, binaan bentuk geometri, binaan bentuk abstrak dan lain-lain)					

ARAHAN: Nyatakan kadar kemahiran teknik yang digunakan secara kerap dalam produk anda dengan memilih kadar yang bersesuaian di bawah.

F- Teknik kemahiran yang manakah yang anda kerap gunakan dalam produk anda? Anda boleh memilih semua

MS **PERKARA**	**Sangat Banyak**	**Banyak**	**Tiada**	**Sedikit**	**Sangat Sedikit**
99-Tangan					
100-Penuangan					
101-Roda					
102-Pengacuan					
103-Peralatan mesin					

Terima kasih KERANA MELUANGKAN MASA UNTUK MENJAWAB SOAL SELIDIK INI .

APPENDIX C

Tables below show the frequency percentage of potters' profile are taken as cases. Tables displayed the characteristics of Age, Gender, Race, Marital Status, Company Belonging To, Education, Household Income, Type of Work, and Residency in the respondents.

Table C.1: Shows the Percentage of Age between Different Age Groups of Potters.

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	40	8	8	8
	26-40	406	81.2	81.2	89.2
	Above 40	54	10.8	10.8	100.0
	Total	500	100.0	100.0	

Table C.2: Shows the Percentage of Gender between Male and Female Groups of Potters.

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	221	44.2	44.2	44.2
	Male	279	55.8	55.8	100.0
	Total	500	100.0	100.0	

Table C.3: Shows the Percentage of Racial Groups (Malay, Chinese, and Indian) among Potters.

Race					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Malay	282	56.4	56.4	56.4
	Chinese	159	31.8	31.8	88.2
	Indian	59	11.8	11.8	100.0
	Total	500	100.0	100.0	

Table C.4: Shows the Percentage of Marital Status (Married And Single) Groups of Potters.

Marital Status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	60	12	12	12
	married	440	88	88	100.0
	Total	500	100.0	100.0	

Table C.5: Shows the Percentage of Education in the Different Groups of Potters.

Education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below high school	74	14.8	14.8	14.8
	Diploma	381	76.2	76.2	91
	BA	44	8.8	8.8	99.8
	Master's degree	1	0.2	0.2	100.0
	Total	500	100.0	100.0	

Table C.6: Shows the Percentage between Different Types of Works, which Potters Relate To.

Type of Work					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Governmental sector	282	56.4	56.4	56.4
	Private sector	218	43.6	43.6	100.0
	Total	500	100.0	100.0	

Table C.7: Shows the Percentage among Different Groups of Potters Based on Their Company That are Belonged To.

Company Belonging to					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Craft complex	246	49.2	49.2	49.2
	Craft factory	112	22.4	22.4	71.6
	Private company/Craft shop	142	28.4	28.4	100.0
	Total	500	100.0	100.0	

Table C.8: Shows the Percentage among Potters Based on Their Residency.

Residency					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Perak	116	23.2	23.2	23.2
	Johor	99	19.8	19.8	43
	Penang	65	13	13	56
	Kedah	82	16.4	16.4	72.4
	Melaka	51	10.2	10.2	82.6
	Negeri Sembilan	29	5.8	5.8	88.4
	Kuala Lumpur	58	11.6	11.6	100.0
	Total	500	100.0	100.0	

Table C.9: Shows the Percentage among Potters Based on Their Different Household Income.

Household Income					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<RM 5000	34	6.8	6.8	6.8
	RM 5000-9999	413	82.6	82.6	89.4
	RM 10,000-24,999	46	9.2	9.2	98.6
	RM 25,000-49,999	3	0.6	0.6	99.2
	>RM 50,000	4	0.8	0.8	100.0
	Total	500	100.0	100.0	

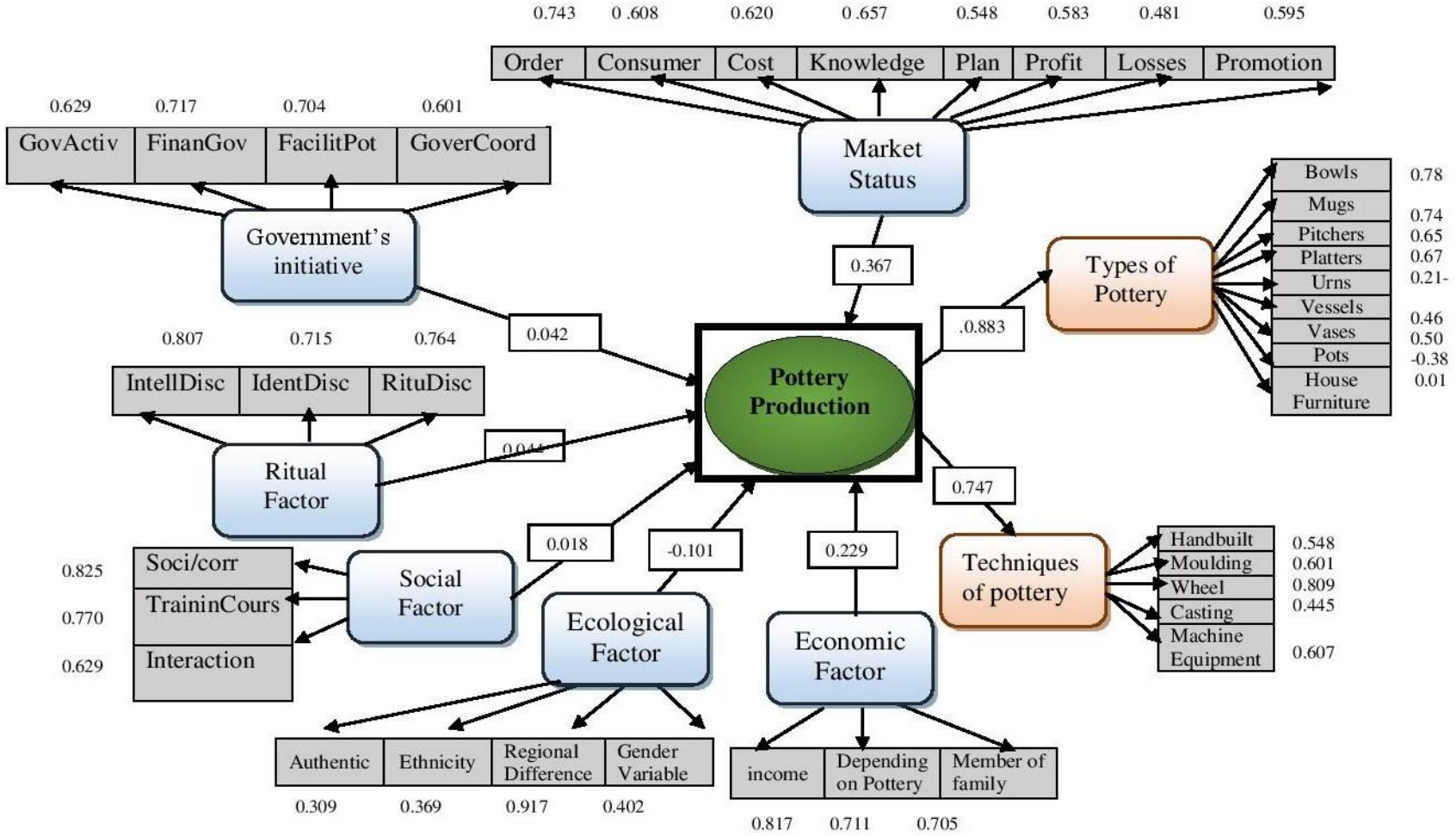

Figure C.1: Original Measurement Model Loaded With All Latent Constructs and Indicators.

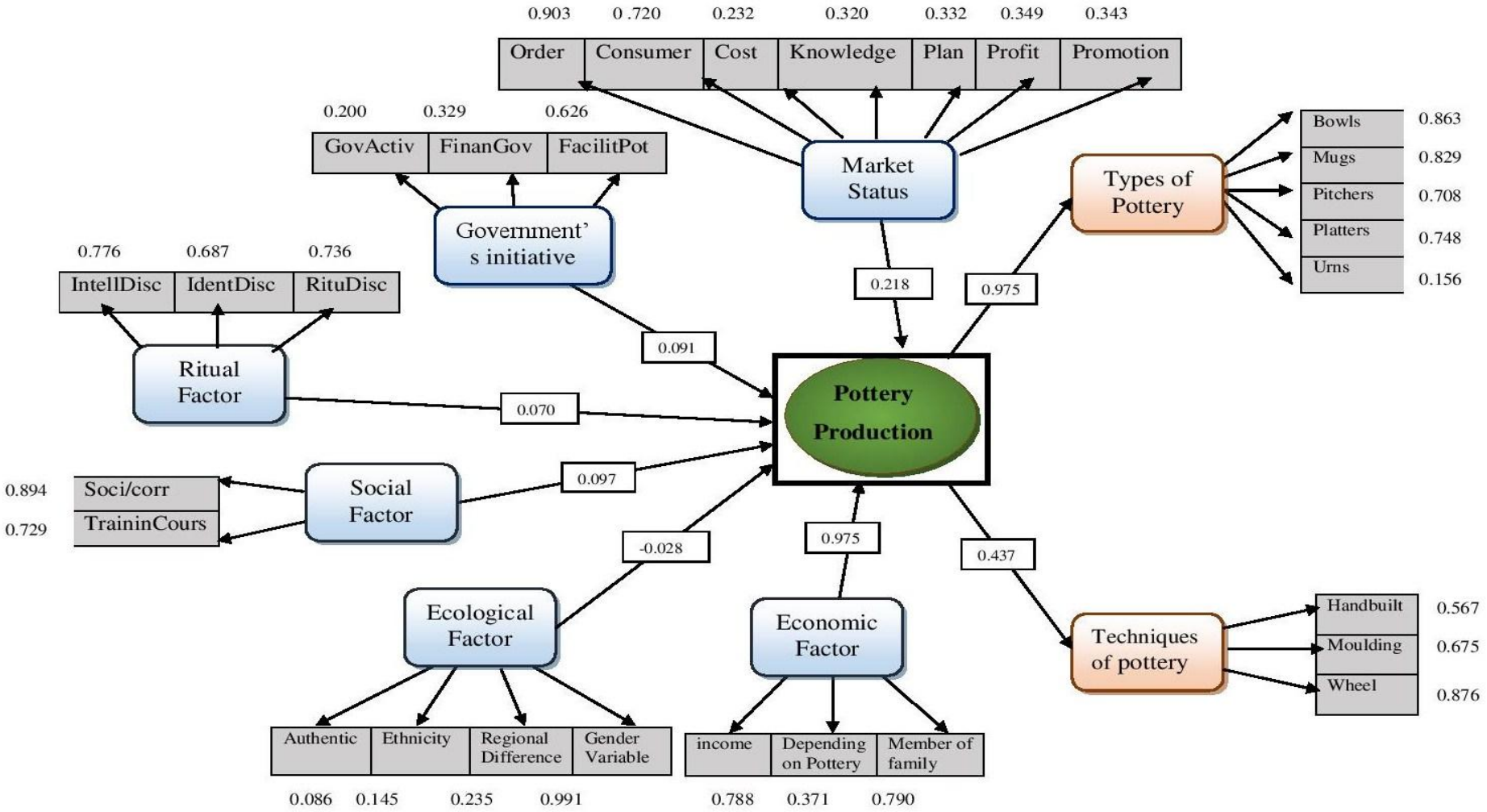

Figure C.2: Proposed of Measurement Reduced Model.

Table C.10: Shows Latent Constructs and Their R Saqure and Reilability

Construct/Indicator	R Square	Reliability of factor loadings
MARKET STATUS	0.815	0.773
		0.791
		0.760
Order	0.518	0.754
Consume	0.104	0.760
Cost	0.117	
Promotion	0.855	
Knowledge	0.706	0.748
Plan	0.102	0.793
Profit	0.110	0.717
GOVERNMENT INITIATIVE	0.122	0.702
Government Activities	0.040	0.735
Financial Government	0.108	0.751
Facilitation of Potters	0.857	0.748
ECONOMIC FACTOR	0.137	0.775
Depending on Pottery		0.700
Income	0.621	0.699
Member of Family		0.657
ECOLOGICAL Factor	0.624	0.881
Authenticity	0.007	0.760
Ethnicity	0.021	0.717
Gender Variables	0.982	0.977
Regional Differences		0.791
RITUAL FACTOR	0.055	0.778
Ritual Discrimination	0.541	0.708
Intellectual Discrimination	0.602	0.726
Identical Discrimination	0.472	0.683
SOCIAL FACTOR		0.762
Social Correlation		0.784
Training Courses	0.799	0.669
POTTERY PRODUCTION	0.530	0.834
Types of Products	0.949	0.814
Techniques of Products	0.190	0.754

Table C.11: Items (Statements) of Measurement Model for the Pottery Production Industry.

Latent Variables	Manifest Variables
Market Status (ζ_1)	A1: Increasing demand, increasing ceramic products
	A2: Increasing order indicator for multiplier
	A3:Special orders for better quality of pottery
	B1: High Consumption is indicator for high quality
	B2: High Consumption is indicator for enhanced products
	B3: Low consumption causes decreasing products
	C1: Increasing cost decreases big pottery
	C2: Increasing materials causes producing small sizes of products
	C3: Increasing material cost causes producing pottery when get order only
	C4: Decreasing materials cost multiplies products quantities
	D1: Profit assists in multiplying quantities of pottery
	D2: Increasing profit encourage enhancing pottery
	D3: Increasing profit encourage diversification technical of products
	E1:losses does not encourage producing much quantities of pottery
	E2:Losses double producing the type of pottery desired in market place
	F1:Promoting pottery leads to multiplying products are required in market place
	F2:Promoting pottery enhances the quality of pottery
	F3:Promoting pottery helps to diversify the skills
	G1:Know the actual reason behind losses helps to avoid many losses
	G2:Identifying the market place's rules enhance pottery products

Table C.11, continued

Latent Variables	Manifest Variables
	G3:Know market's rules diversifies pottery production
	H1:Drawing prior plan multiplies pottery production
	H2:Drawing a plan enhances pottery
	H3:Drawing a plan diversifies the skills of production
Government's initiative (ζ_2)	A1: Participating in governmental activities reinforces production skills
	A2: Governmental activities contributes increasing products
	A3:Governmental activities improve pottery products
	B1:Government financial support diversifies pottery
	B2: Government financial support develops pottery production
	B3:Government financial support motivates increasing products
	C1: Government coordination helps straightening potters' skills
	C2: Governmental coordination regulates pottery production
	C3: Governmental coordination contributes diversifying production
	D1: Facilities given by government motivates multiplying pottery
	D2:Facilities given by government enhance the performance
	D3:Providing raw materials given by government contributes in diversification of products' size
Economic Factor (ζ_3)	A1:Relying on pottery motivates to multiply pottery
	A2:Rely on another source of income does not provide sufficient time
	A3:Rely on another source of livelihood weakness the quality
	B1:Providing bonuses added to income multiply pottery

Table C.11, continued

Latent Variables	Manifest Variables
	B2:Lack of income affect the ability of creativity
	B3:Lack of income reduces the effort made in the pottery
	C1:Big family members produce large quantities of pottery
	C2:Dividing the roles among family aids to save effort
	C3:Big family members assist to enhance the production
Ecological Factor (ζ_4)	A1:Authenticity in production helps to continue traditional techniques
	A2:Authenticity in production does not conflict with non-traditional techniques
	A3:Authentic products require high skills for simulating the techniques
	A4:Increasing the authentic production due to increasing demand
	B1:Having different races in a group assists diversity the performance
	B2:Dealing with different races in one group grows different skills
	C1:I cannot produce pottery regularly when i am holding household responsibility
	C2:I am able to produce large quantities of pottery with handing another business
	C3:I am often interested to highlight small aesthetical details
	C4:I cannot stand the small details and i am more into the general lines
	D1:Shifting to different regions develops the skills of pottery
	D2:Switching to different regions diversifies the techniques
	D3:Different techniques taken from different regions grants the uniqueness to design

Table C.11, continued

Latent Variables	Manifest Variables
Ritual Factor (ζ_5)	A1:The duplication of Utilitarian Products due to religious' needs A2:Pottery made for religious purposes characterizes into precise techniques A3: Working with different groups of various religiou s assist to change the techniques.
	B1:Pottery made for religious occasion is strong reflector for intellectual beliefs B2:Diversity of intellectual trends lead to the diversity of production B3:Diversity of intellectual trends drive to building skills C1:Potters' identity is appeared through the techniques chosen for pottery C2:Potters' identity reveals the different skills of potters C3:Potters' identity is confirmed from through the scale of production
Social Factor (ζ_6)	A1:The broad social correlations helps to improve potters' skills A2:The broad social correlations enhance pottery techniques A3:The broad social correlations improve the ability to assimilate other culture B1:Involving with other potters in several regions assists to reinforce the competition B2:Involving with other potters in several regions improve the production B3:Involving with other potters in several regions grows the potters' skills

Table C.11, continued

Latent Variables	Manifest Variables
	C1:The training courses contributes enhancing the beginner performance C2:The training courses contributes in potters' capability C3:The training courses builds up the potters' skills of pottery C4:Participating in training courses builds up the skills of transaction with real consumers
Types of Pottery production (ζ_7)	Platters Mugs Bowls Pitcher Urns Pots Vessels Vases House Furniture
Techniques of Pottery (ζ_8)	Hand built Casting Wheel Moulding Machine Equipment

All the items are scaled from 1 to 5. Scale 1 expresses a very negative point of view on the product while scale 5 a very positive opinion.

Table C.12: Shows the Discriminaant Validity of the Parameters in the Outer Measurement Model.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Authen	0.61	.78																													
Consum	0.62	.19	.79																												
Cost	0.61	.11	.24	.78																											
Deponptt	0.53	.08	.19	.21	.73																										
EcoloF	0.61	.08	.11	.009	.17	.78																									
EconF	0.63	.24	.27	.33	.37	.07	.79																								
Ethnicit	0.56	.18	.19	.10	.16	.14	.17	.75																							
FaciliPot	0.61	.24	.23	.20	.20	.09	.28	.28	.78																						
FinanGo	0.60	.24	.27	.21	.22	.11	.21	.17	.30	.77																					
Gend var	0.91	.05	.07	.02	.13	.09	.03	.11	.06	.08	.95																				
Gov Acti	0.58	.25	.31	.14	.22	.11	.26	.10	.18	.27	.08	.76																			
Gov Initi	0.56	.24	.22	.21	.23	.10	.29	.26	.22	.32	.06	.20	.75																		
IdenDisc	0.55	.24	.18	.13	.04	.003	.23	.21	.15	.21	.02	.15	.20	.74																	
Incom	0.56	.23	.27	.27	.38	.09	.24	.14	.33	.20	.05	.22	.32	.19	.75																
InteDisc	0.58	.28	.22	.31	.17	.02	.33	.17	.25	.28	.01	.18	.28	.36	.32	.76															
Knowl	0.60	.20	.28	.28	.22	.11	.29	.18	.24	.24	.07	.36	.27	.13	.23	.19	.77														
MS	0.53	.22	.27	.32	.25	.12	.31	.20	.32	.35	.07	.31	.32	.21	.30	.30	.32	.72													
MemoFa	0.54	.20	.22	.28	.24	.04	.34	.17	.16	.18	.006	.21	.18	.20	.29	.25	.29	.26	.73												
Order	0.65	.17	.39	.28	.23	.13	.25	.16	.32	.30	.08	.24	.31	.17	.24	.26	.27	.30	.21	.80											
Plan	0.65	.16	.21	.22	.16	.09	.23	.21	.20	.30	.05	.25	.20	.09	.19	.16	.32	.33	.22	.33	.81										
PottProd	0.51	.22	.23	.27	.26	.03	.32	.15	.24	.30	.01	.24	.25	.21	.30	.26	.22	.35	.24	.33	.18	.71									
Profit	0.55	.20	.27	.25	.20	.07	.30	.20	.17	.23	.04	.16	.19	.20	.22	.14	.25	.34	.28	.31	.13	.27	.74								
Promo	0.61	.17	.24	.23	.12	.04	.35	.14	.23	.23	.02	.26	.22	.14	.30	.22	.25	.34	.31	.31	.27	.25	.26	.78							
RegDiff	0.65	.23	.27	.26	.26	.23	.31	.21	.23	.21	.10	.25	.26	.21	.25	.29	.27	.36	.31	.34	.24	.31	.23	.19	.80						
RituDisc	0.57	.20	.22	.26	.20	.09	.31	.71	.19	.19	.05	.19	.23	.27	.27	.42	.23	.26	.25	.22	.15	.22	.26	.19	.30	.75					
RituFac	0.54	.29	.26	.29	.16	.04	.35	.21	.23	.27	.001	.21	.27	.68	.32	.37	.21	.29	.28	.24	.16	.25	.23	.21	.30	.37	.73				
SocFac	0.51	.27	.27	.31	.21	.09	.31	.20	.27	.29	.05	.28	.28	.30	.26	.29	.35	.34	.26	.29	.24	.27	.25	.27	.30	.32	.36	.71			

TechoPo	0.51	.15	.27	.22	.23	.07	.26	.13	.17	.23	.12	.17	.19	.14	.29	.20	.22	.41	.21	.39	.16	.43	.20	.19	.31	.16	.17	.19	.71		
TrainCo	0.54	.10	.18	.23	.12	.10	.18	.10	.22	.21	.08	.20	.22	.17	.15	.18	.23	.21	.15	.18	.12	.15	.15	.14	.15	.20	.23	.28	.11	.73	
TypeoPo	0.50	.20	.18	.24	.23	.04	.29	.13	.22	.26	.008	.22	.22	.19	.26	.23	.18	.28	.22	.27	.16	.23	.25	.24	.26	.19	.22	.25	.25	.13	.70
SoCorr	0.64	.32	.28	.30	.22	.08	.33	.23	.24	.29	.04	.27	.26	.32	.27	.29	.35	.36	.28	.30	.27	.28	.28	.29	.35	.32	.37	.22	.20	.37	.25