An empirical study of international correspondent banking in Australia

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CHAPTER FIVE: RESEARCH METHODOLOGY

5.0 INTRODUCTION

This is the last of the four background chapters. This research utilises the Triangulation Approach consisting of three components: a detailed case study of an Australian Major bank (Commonwealth Bank of Australia), empirical surveys analysed by descriptive and simple inference statistics of the international corbanking industry and modelling by multiple linear regressions and factor analysis. The three components will be presented respectively in Chapters: Six, Seven and Eight. Furthermore, the analyses of the empirical surveys by inference statistics are used to reduce the number of independent variables for modelling by regression and factor analysis. The "triangulation approach" comprises multiple strategies of research viewed from different angles and is used as the conceptual framework of this research in three methodologies for three different angles.

The previous Chapters outline the industrial background of international correspondent banking in Australia by looking at Corbanking developments and the literature. As previously stated, there is a dearth of theory on international corbanking in Australia and most literature relates to the American banking environment. However, they do provide fragments for the corbanking theoretical framework. Adding information collected from exploratory research such as unpublished empirical research articles, conference papers and industrial magazines to the previous research for setting and testing hypotheses, models of determinant factors and criteria influencing international correspondent banking decision were formed. Exploring and explaining a social and economic phenomenon of corbanking are the principal purposes of this research.

The sequence of this chapter is: Theoretical consideration of methodologies is summarised in section 5.1. The research design utilised for data selection, sampling
strategy and analysis techniques is outlined in 5.2 and a more detailed discussion in the four phases [exploration in 5.3, case study in 5.4, empirical survey in 5.5 and modeling in 5.6] of the research. Summary of Hypothesis 1 and its eighteen (18) determinant factors, Hypothesis 2 and its nineteen (19) criteria are in the paragraph 5.6.1 and 5.6.2 respectively. The conclusion is in section 5.7.

5.1 METHODOLOGIES: THEORETICAL CONSIDERATION

The purpose of this social research may be divided into three groups based on what this research is trying to accomplish - exploring new issues and topics, describing a social phenomenon, and explaining why something occurs relevant to corbanking. The aims of this research are to explore, describe and explain the phenomena of global corbanking. There are three basic analytical approaches: positive, interpretive and critical. These are applied integrally with emphasis on the first two approaches according to the multiple research strategy - the Triangulation theory - as a methodological foundation in order to achieve the purpose. Triangulation is a process for surveyors measuring the distances between objects. They survey the landscape by viewing points from different angles. In social research, the triangulation method means using different types of measures, or data collection and analytical methods, in order to examine the same variable. In this special use of multiple indicators (Hoque and Hopper, 1997) for corbanking, the basic idea is that measurement improves when diverse indicators are used. As the diversity of indicators gets greater, the confidence in measurement grows, because getting identical measurements from highly diverse methods implies greater validity than if a single or similar methods had been used. By collecting and analyzing these viewpoints from different methods: literature review, a case study, empirical surveys and modeling, the
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research ensures that the final evaluation report reflects the multiple realities of specific social relationships with improved internal validity.

Interpretations of these three approaches (Positivism, the Interpretative Social Science (ISS) and the Critical Social Science (CSS)) to fit into the Triangulation method via three methods as case a study, a survey and modelling are as follows:

(i) Positivism - the scientific method based on quantitative methods, also called nomothetic, where empirical surveys and regression and factorial modellings are present. This assumes that social reality is objective. It sees social science as an organised method for combining deductive logic with precise empirical observations of individual behaviour in order to discover and confirm a set of probabilistic causal laws that can be used to predict general patterns of human activities (Halfpenny, 1979 and Turner, 1984).

(ii) ISS - the naturalistic and qualitative method known as ideographic that focuses on the individual case rather than general law-making, which is the systematic analysis of socially meaningful action through the direct detailed observation of people in natural settings in order to arrive at understandings and interpretations of how people create and maintain their social worlds (Holstein and Gubrium, 1994).

(iii) CSS emphasizes change as a critical process of inquiry [in the case of traditional and modern corbanking in chapter two] that goes beyond surface illusions to uncover the real underlying structures in the material world in order to help people-managers-change conditions and in the case of this research build a better world of corbanking business. Therefore, Critical researchers tend to favour the historical-comparative method in terms of time series. Versions of the CSS include dialectical materialism, class analysis and structuralism which mixes nomothetic and ideographic approaches (Fay, 1987).

For the purpose of this study, in exploration research, it was discovered that researchers had written little on corbanking. The Study therefore began with seven banks as an
exploratory study in order to know enough to design and execute a second and further, more systematic and extensive study. Exploratory research is creative, open minded, and flexible; adopting an investigative stance; and exploring all sources. Qualitative data are collected via structured questionnaires in the format of case studies. Qualitative research tends to be more open to using a range of evidence and discovering new issues. In descriptive research, after exploration, some developed idea about corbanking was formed and described. Descriptive research presents a picture of the specific details of a situation, social setting, or relationship and describes accurately well defined subjects. This descriptive research uses surveys, field research-interviews and historical-comparative research. Descriptive and exploratory research have many similarities but they blur together in practice. In explanatory research, the desire to know “why” to explain, is the principal purpose. Explanatory research builds on exploratory and descriptive research and goes on to identify the reason something occurs. Going beyond focusing a topic or providing a picture of it, explanatory research looks for causes and reasons such as strategic alliance in determinant factors of corbanking relationships.

Data collection techniques used based on the “Triangulation” approach, are a mixture of qualitative data collection - a major case study, field research and historical-comparative research - and quantitative data collection techniques - surveys and existing statistics. In terms of time frames, the cross-section research at a single point in time, that is at the contemporary banking period, is used in this research and applied as a starting point to view the traditional (past) and predict future corbanking in less detail at multiple time points - past, present and future. The snapshot approach used in this research is less than a complete longitudinal study but it is used to supplement the shortcomings of the cross-section research, which cannot capture social processes or change in its entirety. Cross-
sectional research for this study is exploratory, descriptive and explanatory in particular the first two. Longitudinal research is descriptive and explanatory.

In this research, the case study method for qualitative data collection consists of seven brief case studies and then a case is selected from them for a major case study. The exploratory and descriptive seven case study group is used:

(i) to search for an introductory understanding on corbanking banking since little of which is known,

(ii) to develop illustrative ‘portraits’ of typical patterns of corbanking and

(iii) to develop examples of good banking practice, particularly in strategy and policy analysis.

After there has developed a reservoir of knowledge on major issues of corbanks as providers and users, the later selective case study - a major CBA case study - is used to focus further, and refine, this knowledge. The questionnaire for the empirical survey is therefore structured based on knowledge that enables some generalisation of major issues in corbanking. Furthermore, the most rigorous application of the case study is that used to effect "...experimental isolation of selected social factors or processes within a real-life context so as to provide a strong test of prevailing explanation and ideas" (Hakim, 1987, page 62). The seven brief case studies are virtually historical-comparative and field research, which began with a loosely formulated idea or topics initially, and an expanded time frame - past and future by interviews within a period of six months.

In quantitative data collection, existing statistics provided by the RBA, such as non-resident assets and liabilities, and financial records from annual reports of banks and bank directors are used for exploratory, descriptive or explanatory purposes. Other data were collected a survey via questionnaire. The survey gives a picture of what corbankers think
or report doing or having done, which can be used in descriptive and explanatory research.

In the analysis of qualitative and quantitative data, there are similarities. First, the form of analysis for both types of data in both styles of research involves inference. To infer means to pass a judgment, to use reasoning, and to reach a conclusion based on evidence. That is, the conclusion is reached by reasoning and simplifies the complexity in the data. Both forms of data analysis anchor statements about the social world in an inquiry that has adequacy. In qualitative research, adequacy refers to the amount of data collected, rather than to the number of subjects as in quantitative research. Adequacy is attained when sufficient data has been collected so that saturation occurs (Morse, 1994). Second, comparison is a process central to all data analysis. Evidence gathered is compared and then multiple process, causes, properties or mechanisms within the evidence are identified. Patterns, similarities and differences, aspects that are alike and unlike are therefore recognized. In short, "the qualitative analysis examine patterns of similarities and differences across cases and tries to come to terms with their diversity... the quantitative analysis examine differences among cases, but with a different emphasis, the goal is to explain the co-variation of one variable with another, usually across many cases..." (Ragin, 1994, page 107). Third, errors, false conclusions, and misleading inferences are avoided as sedulously as possible. Moreover, one needs to be alert to the possibility of fallacies or illusions. The data analysis of both forms is filtered through various explanations, discussions and descriptions.

In quantitative analysis, this process is clothed in statistics, hypotheses, and variables. The symbolic language of statistical relationships between variables is used to discuss causal relations. International banking can be measured by using numbers. Applying the laws of statistics to manipulate the numbers reveals features of coranking. By contrast,
qualitative analysis is less abstract than statistical analysis and closer to raw data. Qualitative analysis does not draw on a large, well-established body of formal knowledge from mathematics and statistics. The data are in the form of words, which are relatively imprecise, diffuse, and context-based, and can have more than one meaning.

5.2 RESEARCH DESIGN

The research design adopted in this study will be a multi-stage design. The first phase of the research consists of exploratory research in the form of rigorous interviews and reviews of previous academic and empirical research in order to clarify the themes as discussed in the section 5.3. The second phase of the research will then be an in-depth case study of Commonwealth Bank of Australia (CBA) in order to illustrate the scenario of international correspondent banking of a major Australian bank as discussed in section 5.4. Information gathered from all previous studies to date, the exploratory stage and the case study stage are used as sources to formulate a questionnaire in the third phase for empirical survey purposes. The analysis of data gathered from surveys is descriptive using simple inference statistics. In the forth phase, the findings of variables of determinant factors of international corbanking relationships and selection criteria of international correspondents will be used to hypothesize and model via multiple regression and factor analysis. Test hypotheses concluded in the previous chapter by cross section surveys are carried out in this phase in chapter eight.

The communication method chosen to administer this case study is group focused or consists of personal interviews with senior bank staff involved in corbanking. The survey was conducted by mailing out questionnaires followed by personal or telephone interviews if necessary. This design was based on the choice of a sampling frame and availability of sources for the research, in fact, the whole bank population consisted of 43
licensed banks as at 31 October 1996. This design aimed at achieving a high response rate and gathering data in a shorter time period.

5.3 EXPLORATORY RESEARCH

This is the first step of the research: to explore the business of international correspondent banking for further research. This research process began with exploratory research by focus groups and rigorous interviews with structured questionnaires in the form of brief case studies, the main purpose of which was to identify knowledge and the specific factors to be included in the study and also to assist in operationalising some of the factors and knowledge already identified from the review of literature. For example, the question of how to operationalise a factor such as entry of a bank was addressed. A secondary purpose of the exploratory research was to gain a better insight into the subject of international correspondent banking.

Regional banks or non-majors tend to have less involvement in international corbanking business. Therefore, banks classified under the group of majors and foreign banks which tend to have more international corbanking business are considered to be more suitable banks for exploratory interviews. Seven banks consisting of four Australian majors and three foreign banks were chosen for this exploratory stage of the research, and accepted the invitation to participate:

i. Australia and New Zealand Banking Grou, Melbourne

ii. Commonwealth Bank of Australia, Sydney

iii. National Australia Bank, Melbourne

iv. Westpac Banking Corporation, Sydney

v. Bank of China, Sydney

vi. Standard Chartered Bank, Sydney
vii. Hong Kong Bank, Sydney

These exploratory interviews were carried out informally with an individual or a group of senior bank staff in charge of the core banking businesses of those banks. Interviews were based on a list of open-ended questions but questions were not restricted to the list. A wider range of creative questions with flexibility, adopting an investigative stance, were asked in order to take advantage of serendipity and those unexpected or chance factors that have larger implications. These did explore as much information as possible in particular those major relevant issues of core banking. Each interview lasted for approximately 90 minutes. This is the initial stage of research. About six months later, each and everyone of the seven banks was interviewed again and asked to complete a well structured survey questionnaire at the survey stage. The data collected from CBA will be incorporated in the case study in chapter six while the results for the remaining six banks are included in the summary results in chapter seven.

5.4 CASE STUDY RESEARCH: A MAJOR CASE

There are different opinions regarding the number of cases that should be chosen. Some authorities recommend that such decisions should be left to the individual researcher (Romano 1989). "There are no rules" for sample size in qualitative research (Patton, 1990, page 181) although other authors recommend different numbers of cases such as Hedges (1985) [twelve] and Eisenhardt (1989) [four to ten cases]. Nevertheless, in practice, it is not easy to find a bank willing to be studied because of banking secrecy. An Australian bank involved in international banking should be an ideal one. The Commonwealth Bank (CBA) at Sydney agreed to be studied. Therefore, CBA was chosen as the major case study as the first of the three methods based on the Triangulation approach. The analytical approach of this case is by focusing on issues related to
international correspondent banking. The case study interviews had been carried out seven times. Each interview lasted about two hours. Five CBA’s managers were interviewed once. The general manager of the Institution Banking was interviewed twice. The following areas related to the International Correspondent Banking (CBA) were discussed and examined via interviews and information from published and unpublished CBA information:

(i) Background information of the CBA - this includes establishment, history, restructuring, organisation, financial strength, performance and analysis, and the privatisation process;

(ii) The Business of Corbanking in CBA - this includes CBA’s corbanking products and services. Involving selection of key correspondents including credit analysis of corbanks, and analysing factors of CBA’s decision to go for international corbanking for its cross-border businesses;

(iii) The CBA’s risk management and relationships management of international corbanking banking - this includes assessment of counterparty risk and classification of counterparties in order to protect CBA’s position, classifications of corbanking relationships, contractual relationships, credit approval authority and reasons of corbanking rationalisation;

(iv) Business Strategies and future corbanking of CBA - this includes business strategies for international banking, factors affecting future of corbanking and strategic alliances. The CBA as a corbanking products and services provider and supplier as well as user or buyer was also analysed.

The purposes of this major case study with descriptive and explanatory characters are as follows:
(i) As a preliminary to the following survey research. Because the selected case is so intensive and generates rich subjective data it may bring to light variables and relationships that deserve more intensive investigation;

(ii) Probing deeply and analyzing intensively the corbanking relationships and therefore preparing the ground for establishing generalisations by my survey research;

(iii) Providing anecdotal evidence that illustrates more general findings;

(iv) To confirm, challenge or extend theories of correspondent banking;

(v) A case study may be valuable in its own right as a unique case.

Furthermore, the case will be analysed about some core constructs identified in the literature review (Perry, 1994).

5.4.1 Methods Used for the Case Study Research

Methods are mainly based on in-depth interviews with a number of key persons providing the information in the mentioned four areas and also analysis of the information provided by the CBA. Notes are used as a form of data deriving from interviews, observations and documents. These notes are organised as an ongoing process so that as the study progresses the investigator has some sense of the direction it is going and the confirmations and contradictions that are arising. The case records are built up in order to facilitate the later analysis and writing of the report. An annotated bibliography of documents was also built up as they were collected.

5.4.2 Analysis of the Commonwealth Bank of Australia Case

The analysis of case study evidence is the most difficult and least developed aspect of the case study methodology (Burns, 1994) in particular, because of the lack of writing on corbanking. Nevertheless, a analytical strategy using in this case analysis is to focus on the theoretical propositions and developing descriptive framework which are derived
from incomplete literature and issues identified by corbanking practitioners, whereas, "The Explanation Building Strategy" (which is a method for data analysing by building an explanation about the case) loosely supplemented by "The Pattern Matching Strategy" (which is a method comparing the obtained pattern with a predicted one; in our research, non-exact application of this strategy is to compare the obtained CBA case with predicted other majors in our exploration and survey) are used as technical strategies for the major case studies.

5.4.3 Limitations of the Case Analysis

Some limitations in the areas of subjective bias, generalisation, reliability, validity and rigour are worthy of mention. Human subjectivity affects support or refutation, or the choice of a particular explanation for the evidence found, may be able to be minimised by consulting supervisors and other bank staff. The case study provides very little evidence of scientific generalisation. Nevertheless, the degree of generalisation can be improved by using the strategy to focus on the theoretical propositions that led to the case study for case analysis. The data provided by one case certainly would be insufficient for reliable generalisations or conclusions. This can also lead to a certain lack of precision. For construct validity, while subjective judgement is used to collect the data, this may be improved by using multiple sources of evidence to demonstrate convergence of data from all sources, and establishing a chain of evidence that links the parts together.

5.5 EMPIRICAL SURVEY

After the in-depth case study of CBA, an explanatory and cross-sectional survey for the corbanking industry will be performed in order to generalise the findings of international
correspondent banking practice and management in Australia. Furthermore, the survey results also used as basis for modelling in chapter eight.

5.5.1 Sampling and Sample Size

The survey used the whole population of banks, which enable us to ignore the problems of bias in the sampling. The survey is the total number of banks, which is forty-three (43) as at October 31 1996. These corbanking groups are further classified into ten banking groups: all banks in Australia - 43 banks; Australian banks - 15 banks; foreign banks - 28 banks; majors - 4 banks; non-majors - 11 banks; American banks - 7 banks; British banks - 7 banks; Japanese banks - 4 banks; European banks - 5 banks, and Asian banks - 5 banks. Details of member banks in individual bank group are listed in Table 3.1, 3.2 and 3.3 of Chapter 3.

5.5.2 Data Collection Method

The survey data were obtained by means of mailing questionnaires and followed by face-to-face single or group or telephone interviews in order to ensure full responses. The reasons for using questionnaire were: less expensive and simpler to administer; each respondent receives an identical set of questions, phrased in exactly the same way for easy comparison purposes, thus errors resulting from the recording of responses by interviewers are reduced; the respondent is free to answer at his/her own time and pace prior to interviews; the problem of non-contact with the respondent is overcome; it is possible to include a larger number of subjects as well as subjects in more diverse locations, and ensure confidentiality (Burns, 1994).

The use of questionnaires in this research is based on one basic underlying assumption: that the respondent will be both willing and able to give truthful answers. These may be achieved by identifying the right persons to fill in the questionnaire since correspondent
banking is a specialised banking area and not many bankers fully understand corbanking business.

5.5.3 Questionnaire Design

According to the information obtained through the exploratory research process via seven case studies and the CBA's case study, the model questionnaire in Appendix 3 was designed in six sections for studying Australian corbanking practice and management.

5.5.4 Data and Statistical Analysis

The descriptive statistics were the main statistical tools - measures of central tendency (mean) and dispersal (standard deviation), frequency counts and standardised statistics to summarise large quantities of data using measures that were easily understood. It would always be possible, of course, simply to present a long list of measurements for each characteristic being observed. The limited inferential statistics such as one sample t test were used to generalise about characteristics of the bank population based on information obtained from a sample taken from that population. In this research, the bank population was 43 banks and reclassified into ten bank groups where each bank group could be treated as a sample from a population. Although fifteen (15) Australian banks was the population of Australian banks, it was assumed as a sample with fifteen (15) as the sample size having unknown population size in order to carry out inference and regression. The data analysis and presentation were categorised into six areas in the questionnaire.

5.6 MODELLING

Two Hypotheses were formed (paragraphs: 5.6.1 and 5.6.2 below) and thus, models of non-resident assets and liabilities (D1) against eighteen determinant factors (defined in
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the paragraphs: 5.6.1 model 1), and number of international corbanks against nineteen
selection criteria (defined in the paragraphs: 5.6.2 model 2) were formed by using the
stepwise OLS regression and confirmed by the factor analysis, where models of a few
bank groups of determinant factors were confirmed by swapping D1 to D2, likewise for
selection criteria D2 to D1. The models were built up from the survey data described by
descriptive statistics and one-sample t test in the chapter seven, where factors and criteria
were preliminarily chosen by significant level less than 0.05 and means of level of
importance equaled to or higher than 3. The testing of hypotheses and models forming
using dependent variables and independent variables is summarised as follows:

5.6.1 Hypothesis Model 1 of Determinant Factors

The first hypothesis expressed as an alternative hypothesis related to determinant factors
of international correspondent banking relationships is as follows:

**HYPOTHESIS 1:** The eighteen determinant factors each have a significant effect on
the decision to choose a strategy involving international correspondent banking
relationships.

The models for linear regressions are: $D_1 = \beta_1 F(I_i)$, where $i$, number of factors = 1 to 18,
$\beta$, coefficient of the models = constant and $\beta_o, F = \text{function}$, and $I$ = determinant factors.

The brief testing method and summary of dependent and independent variables are as
follows: To test the first hypothesis (along with the associated hypotheses), the
contribution of individual factors to the overall evaluation of correspondent banking
relationships is considered. The statistical technique used to test these hypotheses will be
OLS multiple regression using SPSS. In relation to multiple regression, the dependent
variable was non-resident assets and liabilities in the form of adding absolute magnitude
rather than balancing, since it can be argued that correspondent balances such as due from
other banks, or due to other banks, may not be the best measure of correspondent activities. Debit and credit of those accounts cancel each other and hence greatly reduced the size of the balances. Therefore, using the cumulative amount of the absolute value of debit and credit will reflect the level of activities of corbanking since a larger magnitude of accumulative amounts represented stronger activities. The independent variables are the eighteen (18) determinant factors used in chapter eight which are summarized as follows:

1. Bank Size (11) (Lawrence and Lougee 1970). This is the asset size of banks. Larger banks have the resources and may be involved in a variety of banking business including corbanking business. This implies larger banks are likely to have more opportunities to diversify across geographical regions and business portfolios. Asset diversification and the resulting financial returns of scale are found to be a significant part of the total scale efficiency picture (McAllister and McManus, 1993). Furthermore, there is evidence support up the relationships between bank size and efficiency, mergers and competitiveness (Berger, Hancock and Humphrey 1993).

2. Customer Driven (12). Many customers in particular large corporations have cross-border ventures which need their bankers to support their banking or investment activities. These services can be supplied by corbank overseas.

3. Competitiveness (13). This describes the manner in which existing and potential corbanking providers interact with each other in meeting the demands of banker clients. Prices are likely to absorb cost of supplying corbanking services. If the level of competition among suppliers is high, provider's price too high above costs, probably providers will lose their business and market share. Therefore, the incentives facing providers to operate efficiently are greater while the level of competition in Australia is higher.
(4) Cost Savings (14). Good correspondent banking relationships can save costs since most corbanks may charge lower fees to their banker clients. Transaction deliveries also are more efficient because of corbanking arrangements. Prices and therefore costs of financial services are the important determinants of international financial services flows (Moshirian, 1993). This cost saving is consistent with (3) competitiveness which looks further than just cost implication.

(5) Foreign Market Entry (15). Some banks may use this as a means to enter the foreign banking market since international corbanking relationships do not involve large capital commitment and are relatively easy to be established.

(6) Preventing Fraud and Money Laundering (16). These days technology makes fraud easier. Co-operation among correspondents and respondents is definitely an effective measure to reduce criminal activities.

(7) Access to Overseas Local Markets (17). Correspondents as agents of respondents are effectively footholds for respondents in overseas markets.

(8) Increasing Bank Assets (18). Corbanking can be a way to expand asset size of banks in order to establish local and overseas reputation via developing business, good performance and efficiency.

(9) Improving Efficiency (19). Correspondents overseas as a representative or an agent of respondents should improve efficiency for international transactions. If financial institutions are becoming more efficient, then there is an expectation of improved profitability, greater amounts of funds intermediated, better prices and service quality for consumers, and greater safety and soundness if some of the efficiency savings are applied towards improving capital buffers that absorb risk. Of course the converse applies if the evolution results in less efficient intermediaries, with the additional danger of taxpayer-
financed industry bailouts if substantial losses are sustained (Berger, Hunter & Timme 1993).

(10) Completing International Network (110). Some banks use a corbanking network to complete their banking network in order to supply full banking services.

(11) Internationalisation Strategy (111). This variable is used to determine whether banks chose corbanking as an internationalization strategy. This is particularly so for Australian banks which tend to have little overseas direct involvement. Corbanking can there be seen as an alternative means of achieving an international presence. This is one of the Dunning’s three specific advantages. Absence of this Dunning’s internalisation advantage and present of internationalization are rationales to opt for corbanking.

(12) Liquidity (112) (Dewald and Dreese 1970). International sources of supplying liquidity may be accessed effectively and cheaply through correspondent involvement and their contacts.

(13) Not Physically Present in Overseas Location (113). Although developments of technology reduce the importance for banks to be physically present, to-date, many businesses still require banks to be physically present, or at least represented by their agents.

(14) Minimizing Capital Investment (114). Establishing corbanking relationships does not require huge capital commitment.

(15) Necessity and Needs (115). Respondents need to have their routine bank drafts and letters of credit cleared overseas which requires correspondents. This leads to the needs and necessity for banks to use corbanking services.

(16) Providing One-Stop Banking (116). The corbanking relationships provide many other international services, which contribute to one-stop banking.
(17) Profitability (I17). Profits from the interest rate margin are getting thinner, but risk is not reduced because of competition. Fee-income based corbanking services can improve the profitability position of correspondents as well as respondents, and reduce risk (Wilkins, 1993).

(18) Reciprocity (I18). Additional Business may come from reciprocal arrangements although this is difficult to identify and guarantee in modern corbanking.

5.6.2 Hypothesis Model 2 of Selection Criteria

The second hypothesis (expressed as an alternative hypothesis) related to selection criteria of international correspondent banks is as follows:

**HYPOTHESIS 2: The nineteen selection criteria each have a significant effect in the partnership searching decision to choose an international correspondent.**

The models for linear regressions are: \[ D_2 = \alpha_i F(J_i), \] i, number of factors = 1 to 18, \( \alpha \), coefficient of the models = constant and \( \alpha_0, F = \text{function}, \) and \( J = \text{selection criteria}. \)

The brief testing method and summary of dependent and independent variables are as follows: To test the second hypothesis (along with the associated sub-hypotheses), the contribution of individual criterion is considered. The statistical technique used to test this hypothesis will also be the Stepwise OLS regression using SPSS. In relation to multiple regression, the dependent variable is the number of correspondents. The nineteen independent variables are summarized as follows:

(1) Broad Domestic and Global Branch Network (J1). Respondents look for correspondents because of their diverse needs for any reasons overseas. Correspondents with broad networks are the basic requirement, except when specialist services are required.
(2) Effective Account or Relationship Officers (J2). Many corbanking services need to be completed within a short span of time with a maximum level of accuracy, which requires effective officers to perform the work. Moreover, a bank in a strong financial position is not necessarily efficient in the manner required. It is therefore crucial to find out the background and reputation of the officers and managers and especially the key personnel in the management team. The quality of management largely depends on its managerial policies and the implementation of these policies which also affects how effective it is, and how efficient are the banking services provided by bank officers. It is also helpful to have a pool of high calibre officers who possess the necessary skills to market the bank’s products.

(3) Financial Strength in Terms of Financial Resources, Quality and Stability (J3). It is always prudent to deal with a financially sound bank. Therefore, the track record of a correspondent bank is very important. The performance of the correspondent bank will have to be evaluated and its financial statements reviewed. The analysis of the financial statements will have to be carefully assessed since they may not follow the international Generally Accepted Accounting Principles (GAAP), or they may not be audited at all. This is true especially if the correspondent bank is situated in a less developed country.

Another factor to consider with regard to a correspondent bank’s financial strength is the evaluation of the risk-taking policies of the correspondent bank which will affect its future ability to service its obligations. The evaluation of the asset quality and capital adequacy of a correspondent bank is also relevant especially when the business conducted is very much credit-related.

(4) Formal Banking Presence (J4). It is a prerequisite that a correspondent bank must have a formal banking presence that is a banking licence in the country in which the underlying customer wishes to do business and where the transaction initiating bank is
not represented. It would therefore be useful for a correspondent bank to have a global network of offices especially if the bank’s customers also have a global branch network.

(5) Effective and Efficient Products and Services Delivery (J5). Many corbanking services are required to be carried out speedily. Mistakes made by correspondents may be very expensive and take a long time to correct.

(6) Historical Relationships (J6). Many interaction among respondents and correspondents depends on good rapport in terms of transaction arrangements, speed in completing transactions and credit background of each other.

(7) Innovative Product Design (J7). Correspondents should be innovative in product design to respond to the ever-changing market conditions and demand from customers.

(8) Linkage to SWIFT and Netting (J8). This is related to banks’ communication capabilities. A correspondent bank with links to SWIFT, CHIPS, CHAPS and/or private electronic funds transfer systems will have the capability to communicate and report any messages to its counterpart efficiently and in good time.

(9) Location (J9). Good locations may mean easy access to overseas local market and resources. Formal banking presence in (1) and broad domestic and global branch network in (4) are important criteria adding to the advantage of location. Corbanks must have various bank licenses, expertise for specialist services and in particular domestic branch network to operate at those locations required by respondent banks.

(10) Market Reputation (J10). The market reputation of a correspondent bank is an important criterion in selecting a correspondent bank. A bank will not know whether another bank is a good paymaster or a defaulter unless it has dealings with that bank. Thus in order to arrive at the best decision, a bank, which does not have previous business contact with a potential correspondent bank, will have to rely on the feedback of other banks which have had previous dealings with that potential correspondent bank.
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Reputation and therefore trust is a critical intangible asset in banking industry where bankers make decisions on the strength of the reputation of a counter party in situations where no time exists for formal credit checks. A damaged reputation is a serious impediment. Any bank that had defaulted on a contract or whose suspect creditworthiness make default likely would have its paper/bills more heavily discounted by the market. Information flows are transparent and almost instantaneous where a premium on reputation will highlight the reputable banks. Furthermore, any correspondent who gives inaccurate information concerning the creditworthiness of its own customers will lose repeat agency business not only from the bank it had wronged but also from other banks as well. The judgement of the market on a bank’s reputation and trust placed in it by other banks is a powerful deterrent to any correspondent to dishonour its contracts (Merrett, 1995).

(11) Operational Capabilities (J11). Many corbanking services are of an operational nature. Correspondents must be able to cope with those services. Moreover, strong operation capabilities of a correspondent bank will be necessary to handle and process all businesses efficiently and with minimum delay.

(12) Consistent Business Policy (J12). Respondents’ stability is preferred over many aspects such as pricing, foreign exchange covers, and credit granting.

(13) Pricing (J13). Certain respondents are cost conscious but prices for last minute or speedy corbanking services may be high. A good correspondent bank should not price its products and services too differently from the market. Respondents as consumers will respond to any increase in price of financial institutions such as domestic financial institutions by switching to another financial institutions such as foreign financial institutions (Moshirian, 1993).
(14) Range of Services (J14). A bank or respondent would normally want to choose a correspondent whose products and services are able to fit into its core business and strategic business niches. The correspondent bank should also be able to provide good customized services.

(15) Reciprocity (J15). This used to be an important factor to consider since banks depend on each other businesses. Reciprocity could be giving businesses to each others which range from signing a bilateral agreements such as for technological cooperation to verbal arrangements for a narrow range of services and products like clearing and trade-related services, in order to broaden the range of any bank services and products.

(16) Risk Rating (J16). Risk related problems, in particular default will ultimately affect not just respondents but also the customers of respondents. Country risk has a strong impact on business transactions. It is essential to consider the economic and political environments of the country where the correspondent bank is located. This is important since the policy of that country may prohibit certain correspondent banking activities. For instance, a correspondent bank may be prohibited from transferring funds out of the country by its government even though it has sufficient funds to meet its obligations.

(17) Compatibility of Services to Respondents (J17). Respondents and correspondents must be compatible in terms of corbanking services, which may involve market and customer segments, hardware and software.

(18) Continuous Reliability of Supply (J18). Continuous reliability means services will be provided with good and stable quality, delivery on time, fast response to request for services and queries. This is an element of quality in banking services. The corbanking relationships will not last without reliability of supply. And
Technology Level (J19). A high level of technology generally implies effective and speedy delivery of services instead of traditional delivery channels and providing more complicated financial services. Internet banking is an additional channel to telex and SWIFT for delivering services although it still has security problem.

5.6.3 OLS Multiple Regression and Factor Analysis.

In this research, the multiple regression is the principal method for modelling of the two hypotheses. The same method is also used to partially confirm a few models of bank groups via replacing \( D_1 \) by \( D_2 \) in the model 1 and \( D_2 \) by \( D_1 \) in the model 2. Factor analysis is used as the check method to confirm the regression models, in particular the most important variables and significant variables extracted via one sample \( t \)-test. Variables correlated with the most significant variables in those models are also explored by Factor Analysis and a Visual method in Figure 8.3 and 8.4 in chapter eight.

5.7 CONCLUSION

The theoretical approach of methodologies of this research is the "Triangulation" technique. This technique involves a multiple-methods, thus providing diverse indicators towards the results from different angles. Data collection techniques used are a mixture of qualitative, such as the case study, and quantitative, such as the empirical surveys, and OLS linear regression and factor analysis. The core of this research is the integration of the three methods from different angles in three correspondent components presented in chapter 6, 7 and 8 rather than merely model forming. This analysis therefore consists of the positivistic, interpretative and critical social science approaches in order to explore and explain international corbanking phenomenon. The research is designed in four phases: exploration, case study, empirical surveys and models. The exploration research
on seven banks will supply the basic understanding and foundation for the more in-depth research to follow. Three detailed methods - the CBA's case study, empirical surveys and modelling were applied to obtain findings of research from diverse views. The case study, a qualitative method, will provide an in-depth and focused understanding of corbanking in the context of an Australian bank. Information gathering from exploration and case study phase used to draft questionnaires for surveys. In the sampling strategy, the total number of banks in Australia for international corbanking purposes is forty three (43) which is further categorized into ten banking groups as the population or the sample size if is population considered unknown. The findings of the empirical surveys provide the general understanding of the international corbanking industry especially its practice and management in Australian perspective. Using previous academic and technical research, the results of the CBA case study and empirical surveys, two hypotheses were formulated in relation to determinant factors of corbanking relationships and selection criteria of correspondents. Models of the factors and criteria were therefore formed by OLS regression, and related variables are explored and further confirmed by factor analysis.