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CROSS-BORDER TRANSFER OF ORGANISATIONAL RESOURCES WITHIN A MULTINATIONAL CORPORATION IN THE CONTEXT OF MANUFACTURING

MRes THESIS

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CROSS-BORDER TRANSFER OF ORGANISATIONAL RESOURCES WITHIN A MULTINATIONAL CORPORATION IN THE CONTEXT OF MANUFACTURING

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ABSTRACT

MNCs (Multinational Corporation) have been considered a salient phenomenon and a popular subject under investigation. Amongst a plethora of research streams, the capability of a MNC to effectively transfer – to relocate or replicate – its organisational resources within the company network has been considered fundamental to its competitive advantage. Recognising this stream of investigation, this thesis aims at, firstly, mapping this research area, and secondly, identifying current knowledge gaps. Particularly, the interest of this research is the context of manufacturing.

A SLR (Systematic Literature Review) approach was adopted to identify and examine relevant preceding research from two major electronic databases (ProQuest and EBASCO). The findings of this research contribute an overview of and potential knowledge gaps in this research area.

ACKONWLEDGEMENT

I would like to give special thanks to Dr Marek Szwejczewski, as a supervisor of this research, who has contributed enormous time with continuing support; as well as Dr Richard Schoenberg, who has continuously infused insightful perspectives into this research. Moreover, advice and supports form other panel members throughout the research period are truly appreciated.

Finally, I would like to dedicate this thesis to my farther and mother. I can not fulfil my dreams without their strongest support in the past 29 years. I am willing to share with them every single piece of achievement in my life.

ACRONYM

FDI	Foreign Direct Investment
HRM	Human Resource Management
IJV	International Joint Venture
IM&A	International Merger and Acquisition
JV	Joint Venture
QM	Quality Management
LC	Learning Capacity
MNC	Multinational Corporation
M&A	Merger & Acquisition
OM	Operations Management
RBV	Resource Based View
WFOE	Wholly Foreign-Owned Enterprise
SLR	Systematic Literature Review

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Chapter One: Introduction

1.1 Overview of Thesis

This MRes thesis is the presentation of research findings based on a Systematic Literature Review (SLR) approach. This research provides a concise whilst comprehensive view of my intended research area – **cross-border transfer of organisational resources within a MNC** (Multinational Corporation) **in the context of manufacturing**. The findings point out potential knowledge gaps for future research. Therefore, this systematic review can be considered the groundwork for my further PhD learning.

1.2 The Phenomenon of Interest

Organisational resources comprise assets, capabilities, organisational processes, firm attributes, information, knowledge, etc., that are proprietary or accessible by a firm (Barney, 1991). Although focusing on different types of organisational resources, researchers have argued that the capability of a MNC to effectively transfer – to relocate or replicate – its organisational resources within the company network is fundamental to its competitive advantage (Galbraith, 1990; Kogut and Zander, 1993; Szulanski, 1996; Grant, 1996; Spender, 1996). For instance, Kogut and Zander (1992) argued that the growth of a firm is directly related to the ability to transfer technology (a type of organisational resources) within its units. Similarly, Argote and Ingram (2000) asserted that organizations that are able to effectively transfer knowledge (another type of organisational resources) from one unit to another are more productive and more likely to survive than those that are less adept at knowledge transfer.

Specifically, in the context of manufacturing, the ability to shift or replicate resources quickly and effectively between facilities equips a firm with strategic flexibility which further leads to competitive advantage (Galbraith, 1990). Manufacturing mobility, therefore, can be deemed as a critical issue in the modern competition of manufacturing. The discussion of manufacturing mobility can be traced back to an early conception: McDonald (1986) conceived of the notion, “Floating Factories”, which are characterised as a series of small modules, rather than a giant fixed asset, ever ready for movement to a better economic opportunities (cheaper, more reliable, more fungible manufacturing factors) and to where laws and governments are more congenial.

Although, extensive literature has been published on inter-firm transfer of organisational resources (Reisman, 2005), the arena of intra-firm transfer

have drawn on attention quiet recently. Researchers have been urging more enquiry into internal diffusion of organisational resources within a MNC (e.g., Hottenstein et. al, 1999; Gupta and Govindarajan, 2000; Maritan and Brush, 2003). Therefore, the focal theme of this thesis lies in intra-firm transfer of organisational resources within a MNC and particularly in the manufacturing setting – the manufacturing sector or the manufacturing function of a firm.

1.3 Personal Motivation for the Research

In my previous working experience in a FDI (Foreign Direct Investment) manufacturer in China, I was assigned two roles successively in production and procurement functions and encountered a variety of problems of transferring production systems from the parent company and localising supply chains in a different business setting. Obstructions, such as inconsistent quality level, unstable output, and unreliable supply, have obsessed the management since the day one of operation locally. Challenges of transferring practices from the donor site in Taiwan to the recipient in China derive from distinct cultural background, dissimilar commercial principles, underdeveloped infrastructure, unsustainable local workforce, extended length of central control, etc.

Inspired both by professional supply chain education at Cranfield School of Management and by the expatriate experience in an expanding mechanical component manufacturer, I have been considering the attributes that enable an organisation to transfer its resources to other sites through cultural and operational hassles across geographical distances and cultural differences. Therefore, in this systematic review, I intended to identify the underlying reasons for a successful transfer of organisational resources. More specifically: Firstly, what is the success of a transfer (the definition)? Secondly, why can a transfer be successful (the factors)? Thirdly, how can a successful transfer be achieved (the procedure and methodology)?

1.4 Terminology

For proceeding to further discussion on the focal theme of this review – **cross-border transfer of organisational resource within a MNC in the context of manufacturing** (**organisational resource transfer** hereafter) – in an unequivocal fashion, the key concepts and terminology used in this thesis are defined as following.

Actors of a Transfer

"Actors" of a transfer are participants whose behaviours have effects on the transfer. In the thesis, actors only refer to the direct participants (the transferor and the transferee). Indirect participants, such as external consulting bodies, are not included in the discussion. Actors of a transfer can be individuals or different levels of organisational units (teams, functions, firms,

etc.). In a primitive form, a transfer is involved with single transferor (the donor) and single transferee (the recipient). However, a transfer can be as complex as being involved with multiple donors and recipients.

Transfer

"Transferring" per se is the process through which the donor relocates or replicates organisational resources to/at the recipient site with the aim of inducing changes in attributes of the recipient (e.g. improvement in skills, knowledge, etc.). Moreover, in fact, the process of transfer is not a linear progression, but an iterative and bilateral exchange between the donor and the recipient.

Subjects can be transferred between companies (inter-firm) or within a company (intra-firm). However, this thesis is only focused on the intra-firm transfer. Herein, intra-firm transfer refers to the transfer between actors who are equity-related and affiliated to the same company network. Therefore, transfer to/from an acquired unit or a joint venture is also included in the discussion of this thesis.

Transfer Channel

The transfer "channel" refers to the medium through which the donor impacts on the recipient. Media of transfers can be different transaction types, including FDI (Foreign Direct Investment) trough WFOE (Wholly-Foreign-Owned-Enterprise), FDI though JV (Joint Venture), acquisition and merger, cooperative agreement (strategic alliance), license agreement, and sales (of equipment/intellectual properties/services). Alternatively, a common medium is simply the interactions amongst units of a MNC via formal and informal communication.

The Transferred Subject

Transferred subjects under discussion in this thesis include a variety of organisational resources of the manufacturing firm. Referring to RBV, i.e. Resource-Based View, (Penrose, 1959; Wernerfelt, 1984; Barney, 1991; Grant, 1991), a manufacturing firm is reckoned as "*a collection of productive resources*" (Penrose, 1959: p. 24).

Referring to Hayes and Wheelwright's (1984) distinction of manufacturing resources (i.e. structure and infrastructure) as well as Barney's (1991) classification of firm resources (i.e. physical capital resources, human capital resources, and organisational capital resources), organisational resources of the manufacturing firm comprises four aspects: **core technology** (transformation processes, equipment and facilities, computer software), **knowledge** (codified documents, explicit and tacit knowledge), **organisational practices** (governing structure, planning and control processes, and personnel training and relationship), and **supply chains** (cross-organisational governing structure, planning and control processes, personnel training and relationship). However, the fourth aspect is mainly

associated with the inter-firm relationship, and hence is excluded from the discussion in this thesis.

Notwithstanding the theoretical perspective is predicated upon RBV, this thesis is not intended to be involved with the controversial discussions on the relationship amongst firm resources, capabilities, and a firm's competitive advantage. Accordingly, the organisational resources under discussion here are not necessarily characterised by VRIN (valuable, rare, inimitable, and non-substitutable) natures (Barney, 1991). However, it is reckoned that a manufacturing firm's capability to transfer organisational resources effectively and efficiently is a key component of its dynamic capability (Teece *et al*., 1997; Winter, 2003).

1.5 Structure of the Thesis

This thesis is structured into five chapters: In this chapter, the central theme of and relevant background information on this thesis have been introduced. The Chapter Two explains how a SLR (Systematic Literature Review) approach was applied to this research. The Chapter Three presents the quantitative findings concluded from the results of SLR. The Chapter Four is focused on qualitative findings derived by synthesizing previous research outcomes. In the final chapter, some conclusions drawn from this research is presents. The structure of this thesis is also demonstrated by figure 1-1 on the next page.

Chapter Two: Methodology

2.1 Introduction

This chapter presents the methodology employed in this thesis and comprises four parts: Firstly, a concise review of systematic literature review (SLR) as a research approach; secondly, an exposition of how SLR was managed for current research; thirdly, a detailed explanation of how SLR was operationalised in the research procedure; and finally, the search results through applying the aforementioned methodology.

2.2 SLR as a Research Approach

Literature is the intellectual repository, where extant knowledge is accumulated for further examination, synthesis, or extension. Selectively, the researcher is informed by and adopts knowledge from the repository in order to constitute the building blocks of research and identify one or several research questions for advancing the knowledge base.

However, as a consequence of the selectivity of being informed and adoption, management research has been criticized for insufficient thoroughness and rigorousness. Critics, like Tranfield *et al*. (2003), argued that traditional narrative literature reviews "*lack thoroughness and in many cases are not undertaken as genuine pieces of investigatory science*". For coping with the drawback, necessity of an evidence-informed management approach was asserted.

In academic practice, similar criticisms of previous research findings and contentions for a systematic and bias-mitigated literature review approach have also been maintained. For instance, reviewing on empirical support for transaction cost economies (TCE), David and Han (2004) stated that:

"*Previous reviews of literature have been largely unsystematic and exclusively narrative, with no explicit selection and evaluation criteria. As a result there is little in the way of comprehensive substantiation regarding empirical support for TCE, a situation which is perhaps common in the fields where 'evidence/theory ratio' is low. Without a thorough assessment, we contend that debates (in the field) are not likely to be fruitful, with each side talking pas the other and little progress being made*."

Or, reviewing empirical research on the resource-based view of firm (RBV), Newbert (2007) criticized that Barney and Arikan's (2001) preceding review on RBV is jeopardized by selection bias resulting from inadvertent omission of articles in less familiar academic disciplines. The subjective sampling based on the researcher's unconscious dispositions is suggested being lessened by conducting a systematic review and analysis of the literature.

From previous discussion, systematic literature review (SLR) renders a substantive foundation for evidence-informed management research and therefore enhance the quality of research. However, the development of SLR in management associated disciplines is relatively new and at its infant stage. Drawing on application experience of SLR approach in medical science, Tranfield *et al*. (2003) proposed "*a replicable, scientific, and transparent process, with the aim of minimising bias though exhaustive literature search and providing an audit trial of the reviewer decisions, procedure, and conclusions"* for operationalising SLR.

Following the procedure developed by Tranfield *et al*. (2003), step-by-step explanation and justification of operationalising a SLR approach for my MRes thesis are presented as the subsequent section 2.3 and 2.4.

2.3 Application of SLR to the Research

This section specifies the managerial aspect of this research – how SLR was managed to conduct current research. It commences with the role of this review in my overall PhD learning. Subsequently, the review questions for this thesis are presented, followed by the review procedure. Finally, the advisory panel and project plan are introduced.

2.3.1 Objectives of this Review

This systematic review was intended to map the area under research and identify key arguments from different perspectives. The results and findings will be included in the next stage of my PhD learning, preparation for the PhD first review.

Based on the systematic review results, a second literature review is planned to be conducted for further exploring the identified gaps in knowledge. Refined research question(s) and potential methodology will be presented in the PhD first review. Integrated learning outcomes at these two stages will form another basis for following stages in the PhD programme (also refer to the figure 2-1 on the next page).

Accordingly, the objectives of this review are:

(1) To identify theoretical perspectives that contribute to our understanding of the transfer of organisational resources; and

(2) To indicate potential research gaps both in theory development and empirical verification considering different research contexts.

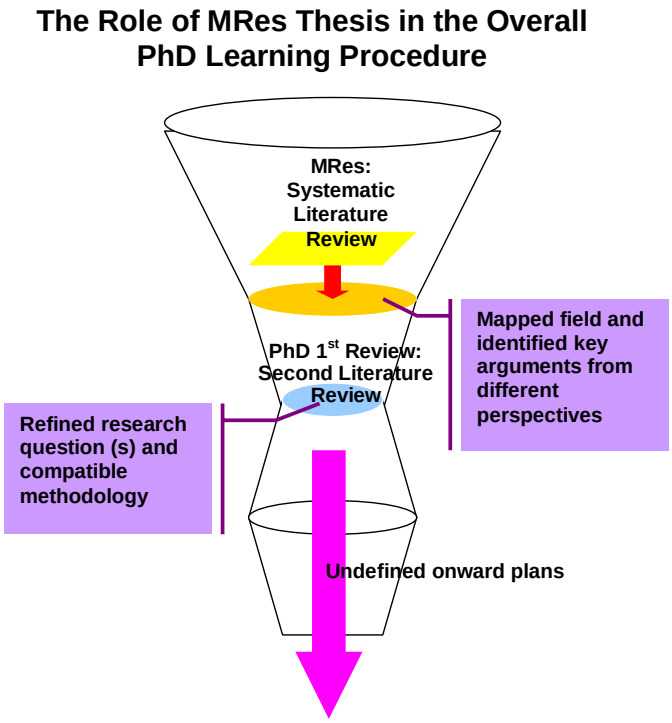


Figure 2-1: the Role of MRes Thesis in the Overall PhD Learning Procedure

2.3.3 The Review Questions

Predicated on the aforementioned two objectives, this review was intended to address the following review questions:

(1) What are the theoretical lenses employed by previous researchers to examine this phenomenon of interest?

(2) What are the definitions of the success of a transfer from different perspectives (e.g. knowledge-based view, operations management, and institutional theory, etc.)?

(3) What are the proposed analytical frameworks by previous researchers (methods, processes, stages, etc.) for a transfer?

(4) What are the factors influencing the transfer (considering both enablers and inhibitors)?

(5) What are the potential research gaps in this research area?

The answers to the question one build the underpinnings for appreciating and pinpointing key theoretical arguments and controversies connected to the phenomenon of interest. The answers to the question two, three, and four, aid in mapping this research area and identifying knowledge gaps. Finally, the answers to the question five will accomplish the ultimate goal of this systematic review.

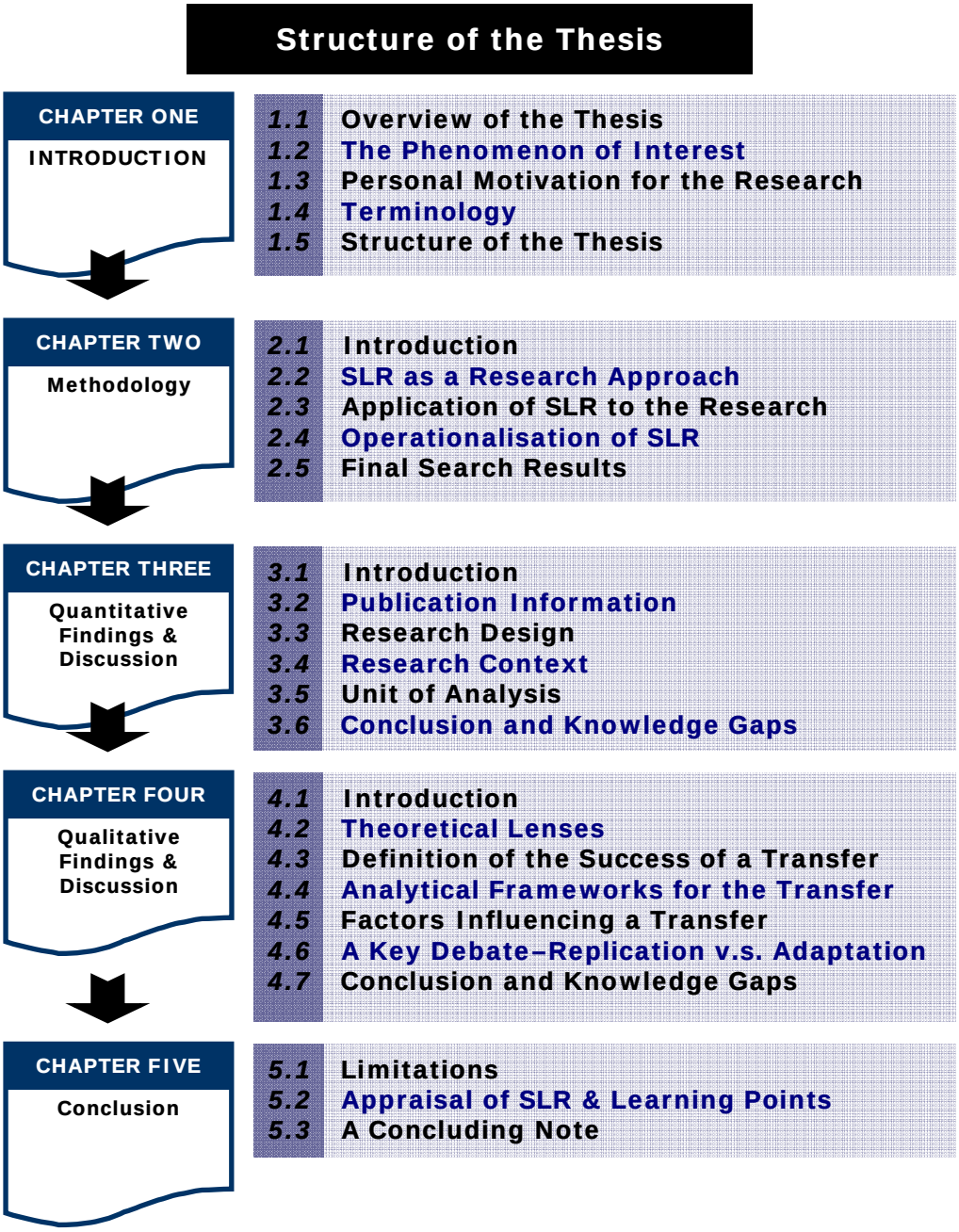


Figure 1-1: Structure of the Thesis

2.3.4 The Review Procedure

Conforming to the guideline for SLR elaborated by AMRC of Cranfield School of Management, a five-staged procedure was undertaken in this research, from (1) planning, (2) identification and evaluation, (3) extraction and synthesis, (4) reporting, to (5) utilization. Furthermore, the five stages consist of ten operational steps for steering the progression of systematic review. This procedure is demonstrated as the following figure 2-2. Detailed research design will be further explained in the next section.

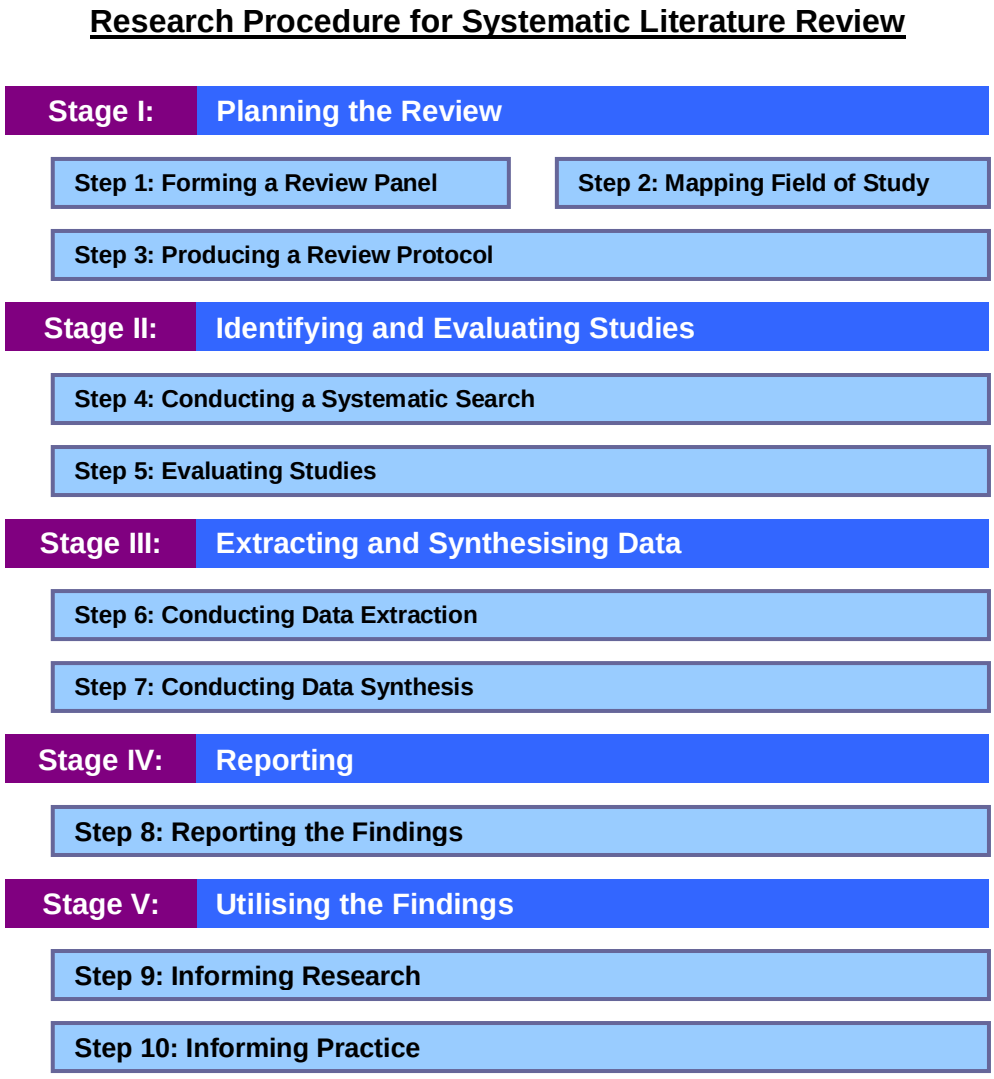


Figure 2-2: The Research Procedure for Systematic Literature Review
(Source: Adapted from Systematic Review Website: http://www.cranfieldonline.com)

2.3.5 Advisory Panel

In light of my limited knowledge, confined perspective, and insufficient experience, constitution of an advisory board was prerequisite for guiding the research procedure of SLR. Accordingly, six members from different

backgrounds were invited for assuring the quality of final outputs. A list of members with brief introduction is tabulated below.

Advisory Panel for Systematic Literature Review

Member	Current Position	Research Interest	Note
Dr Marek Szwejczewski	Senior Research Fellow in Operation Management, Cranfield School of Management	Manufacturing strategy, performance measurement and world class manufacturing	Supervisor
Dr Richard Schoenberg	Senior Lecturer in Strategic Management, Cranfield School of Management	Organisational factors influencing acquisition performance, value creation mechanisms in cross-border acquisitions, bid defence tactics and their impact on hostile acquisitions, the measurement of acquisition performance	MRes review panel
Dr David Denyer	Senior Research Fellow in Organization Studies, Cranfield School of Management	A methodology for evidence-informed management knowledge using systematic review	Developer and lecturer - Systematic Literature Review approach
Prof David Bennett	Professor of Technology Management and Deputy Head for External Affairs, Aston Business School	Production systems design, quality and reliability management, technology management and the transfer of technology between industrialised and developing countries, especially in the Asian region.	
Dr Ruihong Gao	Researcher, Kobe University	Impacts of culture on international business	
Dr Chee Yew Wong	Research Fellow in Logistics & Supply Chain Management	Supply chain strategy, planning, coordination, and process	

Table 2-1: List of Advisory Panel for the Systematic Literature Review

2.3.6 Project Plan

The plan for operationalising the research procedure is demonstrated by table 2-2 on the next page. The periods of time required for each phase of the procedure were estimated. Moreover, quality assurance activities (biweekly meetings with either the supervisor or the advisory panel members) were also carried out for reporting progress, trouble-shooting, and taking advice.

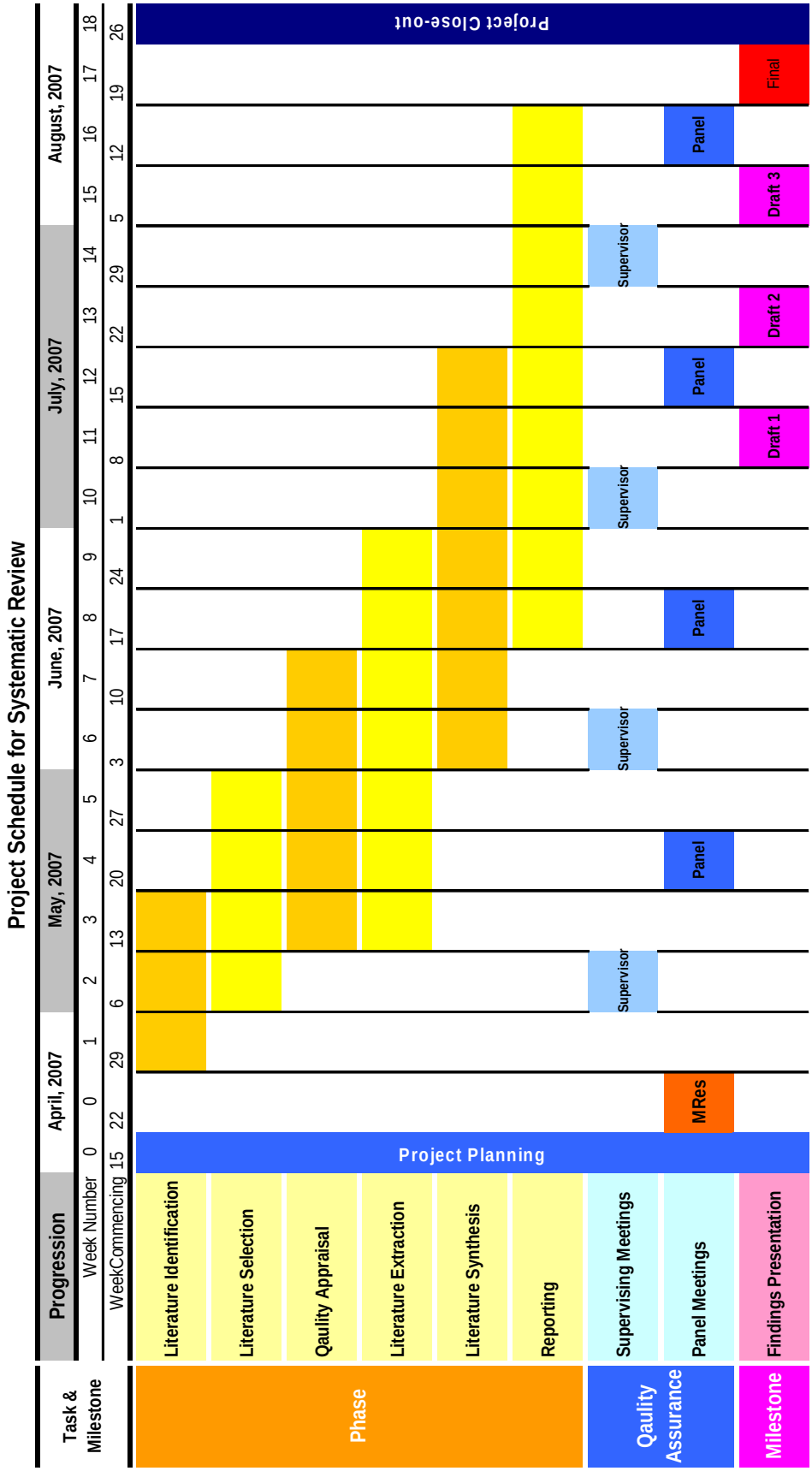


Table 2-2: Project Plan for this Systematic Literature Review

2.4 Operationalisation of SLR

This section specifies the operational aspect of research – how SLR was operationalised to conduct this research. Guided by the review procedure specified in section 2.3.4, four subsections introduce how data were located, selected, documented and synthesized, and how findings were reported.

2.4.1 Locating Data

Corresponding to the second stage of research procedure, a systematic method for locating relevant literature was deployed. Initially, the sources of literature under review were defined. Subsequently, search keywords and search strings were designed. Finally, by utilising the search strings, relevant literature was identified.

Sources of Data

Literature under review was originally planned to source from eight electronic databases, in which types of documents range over journal article, working paper, thesis, conference proceedings, book, and case study. However, on account of the constraint on time, this review only could be focused on two major electronic databases (ProQuest and EBSCO). Considering the comprehensiveness and popularity of the two databases, the sources of data for this review are still considered adequate for capturing diversified and ample extant propositions and findings in the research area.

As specified in the Review Questions and Review Objectives sections, the main purpose of this review was to track the academic development in this research area and hence only scholarly literature (except for three prestigious quasi-academic journals: Harvard Business Review, California Management Review, and MIT Sloan Management Review) was included.

Moreover, available timeframes in the two selected databases (ProQuest and EBSCO) were included. Therefore, all preceding research was within the scope of search for literature.

The features and usage of each database for this review are explained by table 2-3 on the next page.

Sources of Literature

Electronic Database	Annotations	Document Type						Type of Search	Time Frame
		Journals	Working Papers	Theses	Conference Proceedings	Book Reviews	Cases Study		
ProQuest	Databases selected comprise (1) ABI/INFORM Global, (2) ABI/INFORM Trade & Industry, and (3) ProQuest Science Journals.	☑		☑		☑	☑	Citation and Abstract [covering Author, Personal Name, Abstract, Product Name, Article Title, Subject Terms, Company Name, Source (publication title), Geographical Name]	1971 to present for ABI/INFORM Global; 1994 to current for ProQuest Science Journal (Available time frame)
EBSCO	The selected database is Business Source Premier	☑			☑		☑	Document title and Abstract	1922 to present for Business Source Premier (Available time frame)
Due to the constraint time, the following databases were not included in this review, but planned to be reviewed before the 1st PhD Review.									
ISI Web of Knowledge	The selected database is Social Science Citation Index	☑						Document Title	(Available time frame)
Science Direct	The selected subjects is Business, Management, & Accounting.	☑				☑		Document title, Abstract, and Keywords	1823 to present (available time frame)
IEEE Xplore		☑			☑	☑		Document title and Abstract	1913 to present (Available time frame)
Judge Business School Library	This database sources online full-text working papers from UK institutions (54 institutes), overseas academic institutions(41 institutes), and international organisations (9 institutes).		☑					Document title and Abstract	(Available time frame)
SSRN (Social Science Research Network)		☑	☑					Document title and Abstract	(Available time frame)
Networked Digital Library of Theses and Dissertations				☑				Document title and Abstract	(Available time frame)

Table 2-3: Sources of Literature

Nomination of Search Strings

The design of final search strings actually went through three phases, i.e. keywords derivation, search strings formulation, and filter formation. These three phases are detailed as following:

Firstly, ***derivation of the search keywords:*** A fundamental logic of generating the search keywords were predicated on that the" transferred subjects under research" are influenced by "actions taken by either the donor or the recipient". For instance, "capabilities of a firm" can be "transferred", "diffused", or "relocated" to a destination by the "donor".

Then considerations were given to what can be transferred, as parts of organisational resources, and what actions can be taken by the both parties in a transfer. Accordingly, the transferred subjects can range over "*capabilities*", "*resources*", "*technology*", "*knowledge*", "*practices*", and "*production*". The actions taken by the two parties involved were reckoned as "*transfer*", "*diffuse*", "*relocate*", "*adapt*", "*adopt*", and "*duplicate*".

The final step was to brainstorm for possible synonyms (both verbs and nouns) of the subjects and actions. The figure 2-3 on the next page illustrates all the derived keywords.

Secondly, ***formulation of the search strings:*** Based on the derived keywords, search strings were compiled. The table 2-4 on page 16 demonstrates the search strings used for ProQuest. Considering that search rules vary in different database, the formats of search strings were adjusted accordingly. However, the fundamental logic was applied consistently.

Thirdly, ***formation of the context filter***: In the pilot tests, it was found that the search results are not manageable in terms of numbers of hit articles, because of the sophistication of derived search keywords in the first phase. Therefore, a set of search keywords was included in the search strings as filters. The filters were derived from the context under research, i.e. cross-border transfer within a MNC, and include "*Intra-firm*" OR "*Intra-organization**" OR "*in multinational**" OR "*within multinational*" OR "*transnational**" OR "*cross-border*".

Implementation of Literature Search

After completion of the three design phases, the strings were used to search document titles and abstracts of literature in the selected databases. Since the acquired articles (raw data) were only selected by the keywords, they were neither definitely relevant nor undoubted high quality on this stage. Further selection was required.

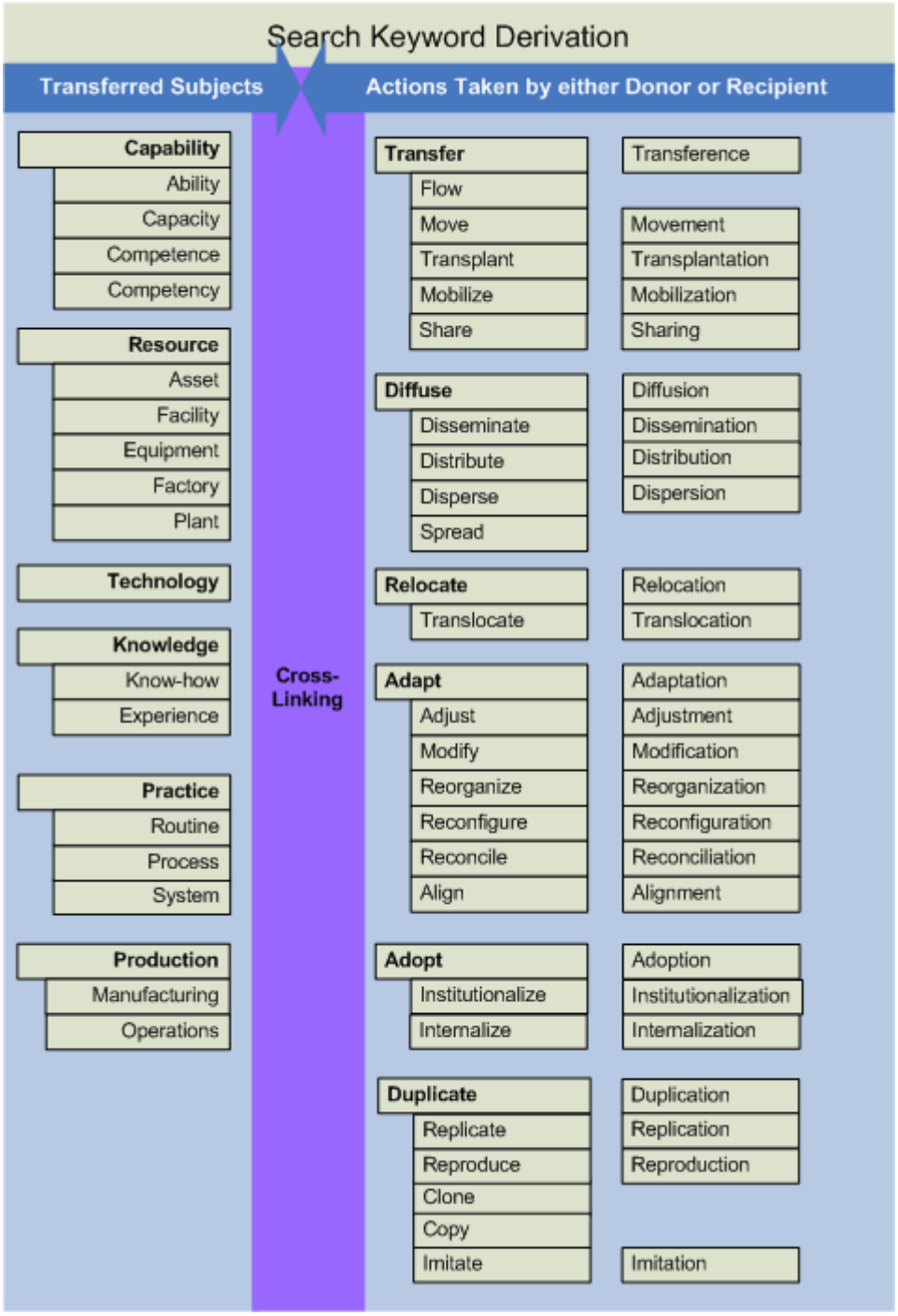


Figure 2-3: Search Keyword Derivation

Search Strings Formulation

	Transferred Subjects	Actions	Search Strings	General Rationale
A	Capability	Transfer Diffuse Relocate Adapt Adopt Duplicate	("**Capabilit***" OR "**Abilit***" OR "**Capacit***" OR "**Competenc***") **AND** ("Transfer*" OR "Flow" OR "Mov*" OR "Transplant*"OR "Mobili*" OR "Shar*" **OR** "Diffus*" OR "Disseminat*" OR "Distribut*" OR "Dispers*" OR "Spread" **OR** "Relocat*" OR "Translocat*" **OR** "Adapt*" OR "Adjust*" OR "Modif*" OR "Reorgani*" OR "Reconfigur*" OR "Reconcil*" OR "Align*" **OR** "Adopt*" OR "Institutional*" OR "Internal*" **OR** "Duplicat*" OR "Replicat*" OR "Reproduc*" OR "Clon*" OR "Cop*" OR "Imitat*")	(1) The fundamental logic in the design of search strings are predicated on that the" transferred subjects under research" are influenced by "actions taken by either the donor or the recipient"; (2) The transferred subjects range over "capabilities", "resources", "technology", "knowledge", "practices", and "production"; and (3) The actions taken by the two parties involved are reckoned as "transfer", "diffuse", "relocate", "adapt", "adopt", and "duplicate".
B	Resources	Transfer Diffuse Relocate Adapt Adopt Duplicate	("**Resource***" OR "**Asset***" OR "**Facilit***" OR "**Equipment**" OR "**Factor***" OR "**Plant***") **AND** (as shown above)	
C	Technology	Transfer Diffuse Relocate Adapt Adopt Duplicate	("**Technolog***") **AND** (as shown above)	
D	Knowledge	Transfer Diffuse Relocate Adapt Adopt Duplicate	("**Knowledge**" OR "**Know-how**" OR "**Experien***") **AND** (as shown above)	
E	Practice	Transfer Diffuse Relocate Adapt Adopt Duplicate	("**Practice***" OR "**Routine***" OR "**Process***" OR "**System***") **AND** (as shown above)	
F	Production	Transfer Diffuse Relocate Adapt Adopt Duplicate	("**Production**" OR "**Manufactur***" OR "**Operation***") **AND** (as shown above)	

(Notes: The formats of search strings are adjusted according to the search rules of different databases.)

Table 2-4: Search String Formulation

3.4.2 Selecting and Appraising Data

After the raw data were located by using the designed search strings and filters, further two steps were taken to screen and refine the initial search results. The first step was intended to screen out relevant literature, and the second was to pick up literature that is not only relevant but also quality. The two steps of selection are described as following:

Firstly, selection criteria were applied to document tiles and abstracts of the raw data (retrieved from entire population of literature). Criteria were used for different types of documents (review, methodological, theoretical, empirical quantitative, and empirical qualitative). This step was focused on relevancy of an article to the research area. Aspects taken into account comprised sector, direction of movement, transfer mode, unit of analysis, and source of an article. (Refer to table 2-5 on the next page for detailed explanation.)

Secondly, another set of criteria were employed for refining the screened raw data in the preceding step. Quality was the primary focus of this step. Employed to assess the full texts of articles, quality criteria were developed and adapted from various sources, including (1) Guideline for Reviewers – The Academy of Management Journal, (2) The Quality in Qualitative Evaluation Report – the National Centre for Social Research, and (3) handouts distributed in Systematic Literature Review course at Cranfield School of Management. Three types of documents (theoretical, empirical quantitative and empirical qualitative) were evaluated by six aspects: (1) General Indicators, (2) Background Theory, (3) Referred Literature, (4) Employed Methodology, (5) Effectiveness of Integration, and (6) Contribution to Knowledge. (See table 2-6 on page 19 for detailed explanation.)

Relevancy Selection Criteria for the Titles and Abstracts of Literature

Focus of Selection		Type of Documents			
		Review	Methodological	Theoretical	Empirical Quantitative	Empirical Qualitative
Relevancy	**Sector**	Not Applicable			The context under research is limited to the manufacturing sector or the production function of a firm; research on other sectors or other functions of a firm is **not** included.
	Direction	Not Applicable	Not Applicable	The context under research is limited to cross-border movement of transferred subjects; transfer activities within single country are **not** included.	
	Mode	Not Applicable	Not Applicable	The context under research is limited to intra-firm transfer; inter-firm transfer is **not** included.	
	Unit of Analysis	Not Applicable	Not Applicable	The unit of analysis is limited to organizational level; analysis at country, industry, and individual levels are **not** included.	
	Source	Only scholarly articles published in journal, conference, etc. and unpublished working papers in SSRN, etc. are selected; articles for practitioners published in trade and business magazine, newspaper, etc. are **not** included (except for Harvard Business Review, California Management Review, and MIT Sloan Management Review)			

Table 2-5: Relevancy Selection Criteria for the Titles and Abstracts of Literature

Table 2-6: Quality Selection Criteria for the Full Texts of Literature

Quality Selection Criteria for the Full Texts of Literature

Focus of Selection		Type of Documents		
		Theoretical	**Empirical Quantitative**	**Empirical Qualitative**
Quality	**General Indicators**	❶ Reputation of Article: Number of citation of an article according to social citation index, EBSCO, and Google Scholar, number of downloads in SSRN (working papers). ❷ Prestige of Author: Number of citation of an author's achievement in relevant fields. ❸ Source of Publication: Influence of the journal or conference in which an article was put forward.		
	Theory	❶ The article has a succinct statement of research questions and objectives. ❷ The article has a well articulated theory that provides conceptual insight and guides hypotheses formulation. ❸ The article has a clear description of the context under research.		
	Literature	❶ The article summarizes knowledge to date on the research topic and key issues raised by previous research. ❷ The article compares different knowledge/ understanding of the research topic from the literature.		
	Method		❶ The article provides convincing argument for different features of research design. ❷ The article clearly defines and systematically applies the criteria for/ approaches to sample selection and data collection.	
			❶ The article applies the statistical procedure correctly and appropriately. ❷ The article provides reasonable assumptions for statistics.	❶ The article clearly informs the relationship between the researcher and the researched. ❷ The article uses corroborating evidence to support and refine findings.
	Integration	❶ The article demonstrates sufficient evidence to justify its interpretation of the meaning and significance of findings. ❷ The article links the findings back to theory and evaluate its generalisability.		
			❶ The article has a clear description of data analysis procedure. ❷ The method chosen is appropriate for the research question and theory. ❸ The article provides a good test of the theory and hypothesis.	
	Contribution	❶ The article makes a new and meaningful contribution to the management literature in terms of all three: theory, empirical knowledge, and management practice. ❷ The findings provide guidance for future research by discussion of limitations of evidence and remaining unknown areas.		

Note: These criteria are developed and adapted from various sources, including (1) Guideline for Reviewers – The Academy of Management Journal, (2) The Quality in Qualitative Evaluation Report – the National Centre for Social Research, and (3) handouts distributed in Systematic Literature Review course at Cranfield School of Management.

3.4.3 Documenting and Synthesizing Data

After the two steps of selection according to relevancy and quality criteria (refer to previous table 2-5 and 2-6), the selected articles were documented in two types of specially designed forms. The first format was devised for theoretical articles (refer to table 2-7 on the next page), and the second format was used for empirical articles (refer to table 2-8 on page 22). Explanations for each column in the respective forms were collated in table 2-9 on page 23.

Table 2-7: Literature Summary Table for Theoretical Research

Literature Summary for Theoretical Research

Cit	Year	Author(s)	Title	Published in (Journal)	Research Question(s)/Aim(s)	Research Unit(s) & Context				
						Mode	Transferred Subject(s)	Channel	Point of View	Level of Analysis
						Inter-firm	Technology	FDI (WFOE)	Donor	
						Intra-firm	Knowledge	FDI (JV)	Neutral	
						Both	Organisational Practice	Merger & Acquisition	Recipient	
								License Agreement		
								Sales of Equipment/ Service		
								Within MNC		

Note: FDI (Foreign Direct Investment); WFOE (Wholly Foreign Owned Enterprise); JV (Joint Venture); MNC (Multinational Corporation)

Perspective (Theoretical Lens)	Propositions	Link	Remark	Appendix

Table 2-8: Literature Summary Table for Empirical Research

Literature Summary for Empirical Research

Cit	Year	Author(s)	Title	Published in (Journal)	Research Question(s)/Aims(s)	Research Unit(s) & Context									Perspective (Theoretical Lens)
						Donor	Recipient	Industry	Company	Mode	Transferred Subject(s)	Channel	Point of View	Level of Analysis	
										Inter-firm	Technology	FDI (WFOE)	Donor		
										Intra-firm	Knowledge	FDI (JV)	Neutral		
										Both	Organisational Practice	Merger & Acquisition	Recipient		
												License Agreement			
												Sales of Equipment/ Service			
												Within MNC			

Note: FDI (Foreign Direct Investment); WFOE (Wholly Foreign Owned Enterprise); JV (Joint Venture); MNC (Multinational Corporation)

Proposition(s)	Methodology Employed			Key Findings	Link	Remark	Appendix
	Source of Data	Data Collection	Data Analysis				

Table 2-9: Annotation for Literature Summary Tables

Annotation for Literature Summary Table

	Column	Explanation
1	**Cit**	the number of times that the article is cited, based on Social Science Citation Index, EBSCO, Google Scholar, and SSRN, where available
2	**Year**	the year in which the article was published
3	**Author(s)**	the author(s) of the article
4	**Title**	the title of document
5	**Published in (Journal)**	the publication in which the article was issued
6	**Research Question(s)/Aim(s)**	the research question(s) raised by the author
7	**Donor** (for empirical research only)	the geographical region where the donor of an observation is located
8	**Recipient** (for empirical research only)	the geographical region where the recipient of an observation is located
9	**Industry** (for empirical research only)	industry in which an observation is made
10	**Company** (for empirical research only)	the company in which an observation is made
11	**Mode**	the mode of transfer (either inter- or intra-firm)
12	**Transferred Subject(s)**	the transferred subject(s) (e.g. technology, knowledge, organisational practices, etc.)
13	**Channel**	the mechanism by which a subject is transferred (within MNC or via FDI - wholly-foreign-owned-enterprise/joint venture, merger & acquisition, strategic alliance, license agreement, or sale of equipment).
14	**Point of View**	the point of view taken by the author(s) (from donor, recipient, or both)
15	**Level of Analysis**	the level of analysis (e.g. country, region, network of firms, firm, department, group, individual)
16	**Perspective (Theoretical Lens)**	the theoretical perpective(s) adopted by the author(s) in the article
17	**Propositions**	the propositions deriving from the main arguments of the article
18	**Source of Data** (for empirical research only)	the source of data collected
19	**Data Collection** (for empirical research only)	the method for collecting data
20	**Data Analysis** (for empirical research only)	the analytical approach to the collected data
21	**Key Findings** (for empirical research only)	the result and conclusion of an article
22	**Link**	the electronic link to the original source
23	**Remark**	limitation of the study and personal comments on the article

3.4.4 Reporting the Findings

The documented articles were further synthesized by two means: (1) data codification, which was facilitated by the designed documentation formats, and (2) the researcher's judgment upon the emergent features of this research area through the SLR processes. The former contributed to the quantitative parts of findings; and the later contributed to the qualitative parts of findings.

On the completion of the data synthesis step, the quantitative findings are reported in the Chapter Three of this thesis and the qualitative findings are reported in the Chapter Four.

2.5 Final Search Results

Guided by the operational steps elucidated in the preceding section, three rounds of searches were conducted: the round one for ProQuest, the round two for EBSCO, and the round three for three quasi-academic journals. Respective results are shown in table 2-10 on the next page.

In summary, 11,338 articles (overlapped to an extent) were found by the search strings in the three rounds[1]. Titles and abstracts of the found articles were then reviewed[2]. In total, 210 articles were considered relevant to this review, and 44 articles (36 empirical researches and 8 theoretical researches) regarded higher quality were further documented and synthesized[3] in the end of process.

[1] The operational process corresponds to the description in section 2.4.1.
[2] The operational process corresponds to the description in section 2.4.2.
[3] The operational process corresponds to the description in section 2.4.3.

Chapter Three: Quantitative Findings & Discussion

3.1 Introduction

This chapter aims at reporting the quantitative findings of this review. Four sets of statistical figures (including publication information, research design, research context, and unit of analysis) are presented in the following sections.

For the section 3.2, the statistics of publication information are based on relevant works identified (210 articles in total), considering that the observations of "relevant articles" can better represent the publication features in the research area, than "high quality articles".

For section 3.3, 3.4, and 3.5, the statistics are based on 36 empirical research works, for capturing the features of research design, research context, and unit of analysis.

3.2 Publication Information

Table 3-1 on the following page demonstrates an overview of both publication years and publication outlets of total 210 relevant articles.

By further analysis, top 20 outlets for related research are presented in table 3-2 on page 29. From the table, Journal of International Business Studies is identified as the most popular and inclined to accepting relevant research.

From a time series analysis (table 3-3 on page 29), there is a conspicuous trend of increasing publication. Particularly, after year 2002, the growth is exponential. The fact evidences the growing popularity and perceived importance with respect to this research area in the five years.

Publication Information Cross-Analysis

(Count of Publication) — Year

Journal	1978	1981	1985	1988	1990	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Total
Academy of Management Executive																			3			3
Academy of Management Journal												1			2	2					1	6
Academy of Management Proceedings							1											1				2
Academy of Management Review													1			1						2
Administrative Science Quarterly													1									1
Advances on International Comparative Management							1															1
Annual Review of Sociology												1										1
Asia Pacific Journal of Human Resources																		1				1
Asia Pacific Journal of Management																				1		1
Asian Business Management																				1		1
British Journal of Industrial Relation																				1		1
British Journal of Industrial Relations																					1	1
Business Strategy Review															1							1
California Management Review					1												1		1			3
Career Development International																	1					1
Competitive Review														1								1
Economic Geography																			1			1
Employee Relations												1				1	1	1				4
European Journal of Industrial Relations																1						1
European Journal of Operational Research																					1	1
European Management Journal													1									1
Human Relations																				4		4
Human Resource Management												1							1			2
Human Resource Management Journal																					1	1
IEEE Transactions on Engineering Management									1	2								1				4
Industrial Marketing Management												1				1					1	3
Industrial Relations																			1			1
Industrial Relations Journal														1								1
Information & Management															1							1
Information Resources Management Journal								1														1
International Business Review								1					1	1		1	1			4	2	11
International Journal of Business Governance and Ethics																				1		1
International Journal of Entrepreneurship and Innovation Management																1						1
International Journal of Human Resource Management										1	1	2	1							1		6
International Journal of Industrial Organization			1																1			2
International Journal of Information Management																					1	1
International Journal of Innovation Management													1									1
International Journal of Manpower																		3				3
International Journal of Manufacturing Technology and Management																	1					1
International Journal of Networking & Virtual Organizations																		1				1
International Journal of Operations & Production Management											1											1
International Journal of Technology Management									1	1				1			3				1	7
International Journal of Technology Transfer & Commercialization																		1				1
International Small Business Journal																			1			1
International Studies of Management & Organization													1						1			2
Journal of Business Research,																				1	1	2
Journal of Economic Geography																		1				1
Journal of Engineering & Technology Management													1									1

(Continued)

Final Search Results

Transferred Subjects		Actions	Context Filter	Round 1			Round 2		Round 3	
				ProQuest			EBSCO		Three Quasi-academic Journals	
				Number of Hits	Number of Relevant		Number of Hits	Number of Relevant	Number of Hits	Number of Relevant
A	Capability	1 - Transfe	Including: "Intra-firm" OR "Intra-organization*" OR "in multinational*" OR "within multinational" OR "transnational*" OR "cross-border"	139	16	17	504	35	23	1
		2 - Diffuse		56	1					
		3 - Relocate		5	0					
		4 - Adapt		55	0					
		5 - Adopt		83	0					
		6 - Duplicate		25	0					
B	Resources	1 - Transfe		447	18	33	1554	12	56	0
		2 - Diffuse		145	8					
		3 - Relocate		10	0					
		4 - Adapt		149	1					
		5 - Adopt		273	6					
		6 - Duplicate		43	0					
C	Technology	1 - Transfe		240	12	16	722	11	27	0
		2 - Diffuse		110	3					
		3 - Relocate		5	0					
		4 - Adapt		60	1					
		5 - Adopt		111	0					
		6 - Duplicate		31	0					
D	Knowledge	1 - Transfe		226	22	23	717	23	24	1
		2 - Diffuse		73	0					
		3 - Relocate		2	0					
		4 - Adapt		67	0					
		5 - Adopt		130	0					
		6 - Duplicate		24	1					
E	Practice	1 - Transfe		554	7	9	1800	25	49	0
		2 - Diffuse		207	2					
		3 - Relocate		12	0					
		4 - Adapt		179	0					
		5 - Adopt		380	0					
		6 - Duplicate		65	0					
F	Production	1 - Transfe		270	0	1	1230	2	50	1
		2 - Diffuse		124	0					
		3 - Relocate		9	0					
		4 - Adapt		98	0					
		5 - Adopt		143	0					
		6 - Duplicate		32	0					
Subtotal Number of Hits				4582			6527		229	
Subtotal Number of Relevant						99		108		3

Table 2-10: Search Results

Journal of Engineering and Technology Management												1								1
Journal of Evolutionary Economics															1					1
Journal of High Technology Management Research													1							1
Journal of Industrial Relations												1								1
Journal of Information Science																		1		1
Journal of International Business Studies	1		1	1		1	1	1		1		1	2			1	2	6	2		3	24
Journal of International Management															1					1
Journal of Knowledge Management																1	1	1		3
Journal of Management																1				1
Journal of Management & Governance													1							1
Journal of Management Studies																			2	2
Journal of Managerial Psychology																		1		1
Journal of Operations Management																	1			1	2
Journal of Organizational Behaviour																			1	1
Journal of Organizational Transformation & Social Change																			1	1
Journal of Technology Transfer																			1	1
Journal of Transnational Management																		1		1
Journal of World Business												1		1		1		1	2	6
Knowledge and Process Management																1				1
Learning Organization																			5	5
Long Range Planning								1												1
Management Decision																1				1
Management International Review													1				3	2		6
Management Science													1					1		2
Organization Science									1		1				1					3
Organization Studies											1					3	1	1	1	7
Organizational behaviour and human decision processes													2							2
Personnel Review																		2		2
Regional Studies																1				1
Research Policy																2				2
Social Science Journal																			1	1
Strategic Management Journal										1		1	2		1	1	2		1	1	10
Technovation												1			2					3
The Academy of Management Review				1								1			1			1			4
The Economic Journal		1																		1
The International Journal of Human Resource Management																			1	1
The Journal of Business & Industrial Marketing																		1		1
The Journal of Business Communication																		1		1
The Journal of Management Studies																		3	1	4
The Journal of Product Innovation Management																		1	1	2
The Learning Organization																			1	1
Thunderbird Business Review													1							1
Total	**1**	**1**	**2**	**2**	**1**	**1**	**3**	**4**	**3**	**6**	**4**	**8**	**16**	**10**	**8**	**15**	**22**	**25**	**30**	**31**	**17**	**210**

Table 3-1: Publication Information

Publication Outlets

Publication Ranking by Journal

Ranking	Journal	Number of Publication	Percentage
1	Journal of International Business Studies	24	11.43%
2	International Business Review	11	5.24%
3	Strategic Management Journal	10	4.76%
4	International Journal of Technology Management	7	3.33%
5	Organization Studies	7	3.33%
6	Academy of Management Journal	6	2.86%
7	International Journal of Human Resource Management	6	2.86%
8	Journal of World Business	6	2.86%
9	Management International Review	6	2.86%
10	Learning Organization	5	2.38%
11	California Management Review	3	1.43%
12	Employee Relations	4	1.90%
13	Human Relations	4	1.90%
14	IEEE Transactions on Engineering Management	4	1.90%
15	The Academy of Management Review	4	1.90%
16	The Journal of Management Studies	4	1.90%
17	Academy of Management Executive	3	1.43%
18	Industrial Marketing Management	3	1.43%
19	International Journal of Manpower	3	1.43%
20	Journal of Knowledge Management	3	1.43%
	Other	87	41.43%
	Total	**210**	**100.00%**

Table 3-2: Publication Ranking by Journal

Time of Publication

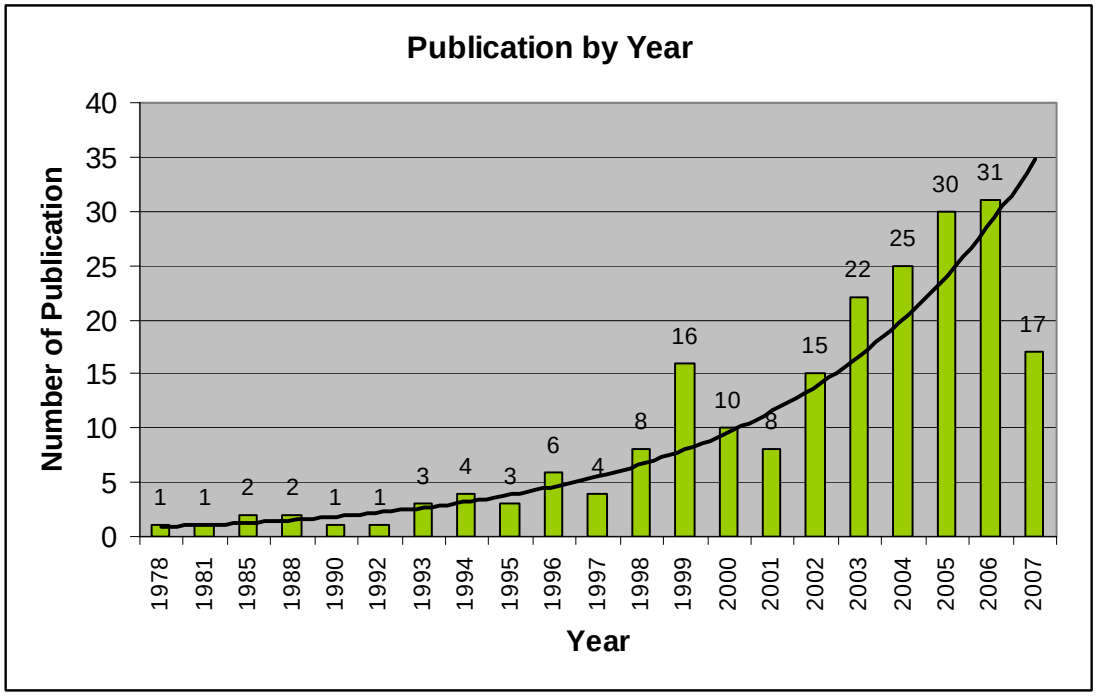


Figure 3-1: Publication by Year

3.3 Research Design

As for the features of research design, two salient findings were extracted from adopted theoretical lenses and employed methodology employed by researchers.

Previous Theoretical Lenses

From figure 3-2 and table 3-3 below, knowledge-based view is the most accepted theoretical perspectives in this research area, then followed by theories related to message transmission (e.g. communication theory) and to the social aspects of organisation (e.g. social capital/organisational socialisation theories).

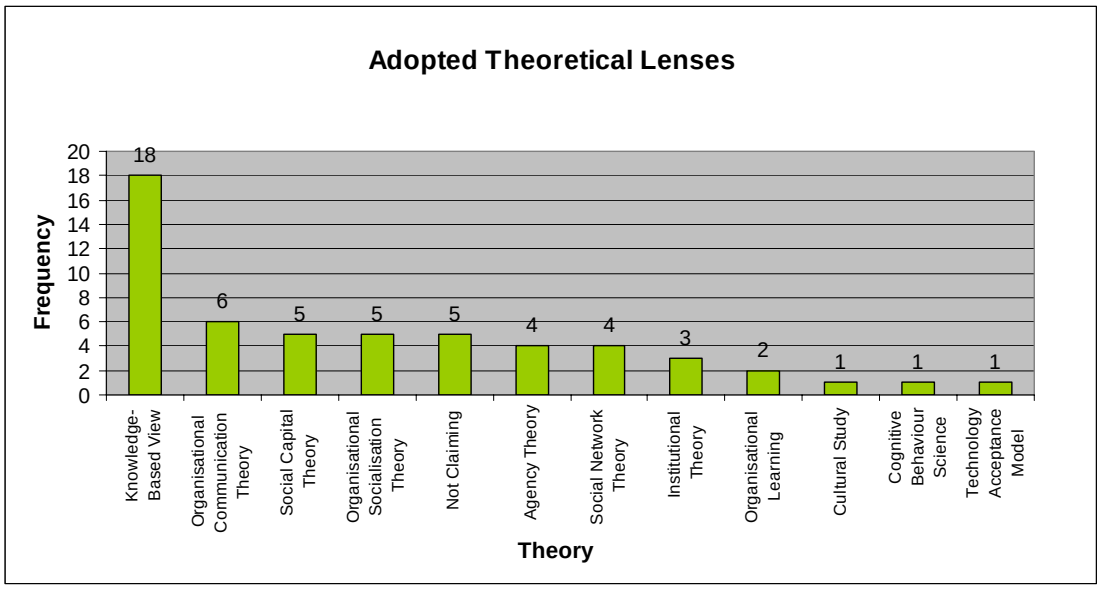


Figure 3-2: Statistics of Adopted Theoretical Lenses

Theoretical Lens	Frequency	Percentage
Knowledge-Based View	18	32.73%
Organisational Communication Theory	6	10.91%
Social Capital Theory	5	9.09%
Organisational Socialisation Theory	5	9.09%
Not Claiming	5	9.09%
Agency Theory	4	7.27%
Social Network Theory	4	7.27%
Institutional Theory	3	5.45%
Organisational Learning	2	3.64%
Cultural Study	1	1.82%
Cognitive Behaviour Science	1	1.82%
Technology Acceptance Model	1	1.82%
Total Frequency of Theoretical Lenses	**55**	100.00%

Note: Commonly researchers hold multiple perspectives in a single research.

Table 3-3: Statistics of Adopted Theoretical Lenses

Previous Methodology Employed

From figure 3-3 and table 3-4 below, survey of perceptions of organisational members is the dominant research approach and accounts for 72.22% of the observed samples. Surveys were conducted respectively on top management (e.g. general manager, chief executives), middle management (e.g. functional manager, project manager), employees (e.g. front line worker, executives), and top down (a range of organisational members, from top management to front line employees). Of the 26 surveys, 2 were conducted by face-to-face interviews and the rest was by posted and returned questionnaires.

Moreover, it was also found that researchers used patent citations and corporate operational data as the basis of analysis. The former offers partial but different insights. The later provides convincing results, but access to actual operational data is not easily attainable.

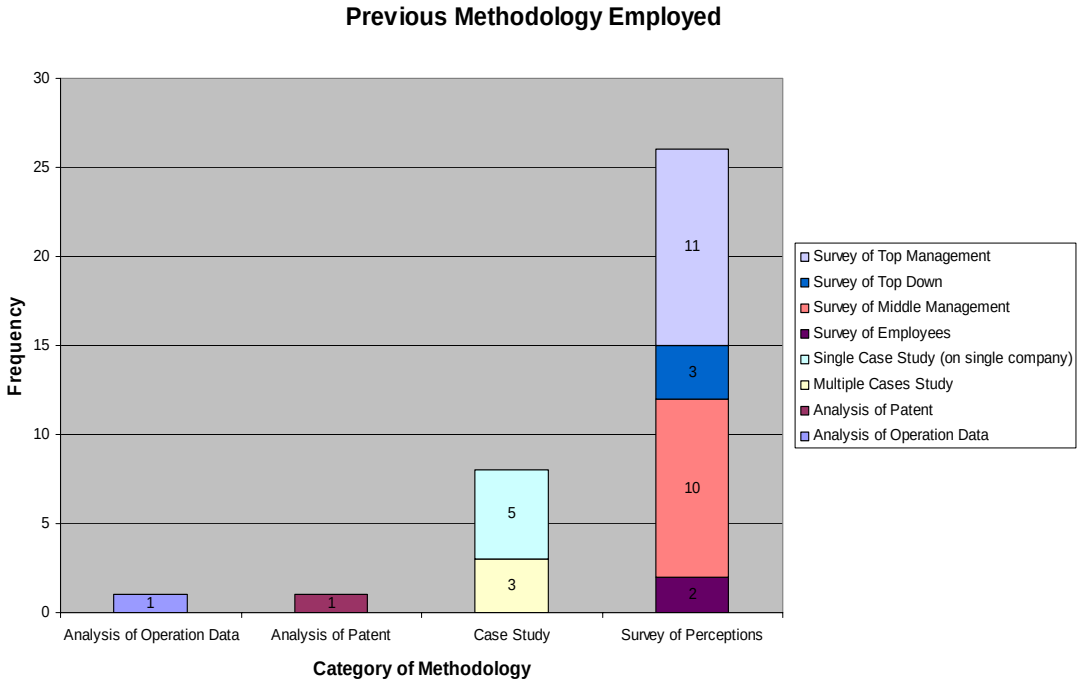


Figure 3-3: Statistics of Previous Employed Methodology

Category	Methodology	Frequency	Percentage
Survey on Perceptions	Survey of Top Management	11	30.56%
	Survey of Middle Management	10	27.78%
	Survey of Top Down	3	8.33%
	Survey of Employees	2	5.56%
Case Study	Single Case Study (on single company)	5	13.89%
	Multiple Cases Study	3	8.33%
Analysis of Patent	Analysis of Patent	1	2.78%
Analysis of Operation Data	Analysis of Operation Data	1	2.78%
Total Number of Researches		**36**	**100.00%**

Table 3-4: Statistics of Previous Employed Methodology

Figure 3-4 and table 3-5 below demonstrate different quantitative data analysis techniques used for the 26 surveys, 1 patent analysis, and 1 operation data analysis. Predominantly, regression modelling and structural equation modelling together account for 78.57% of the sampled researches.

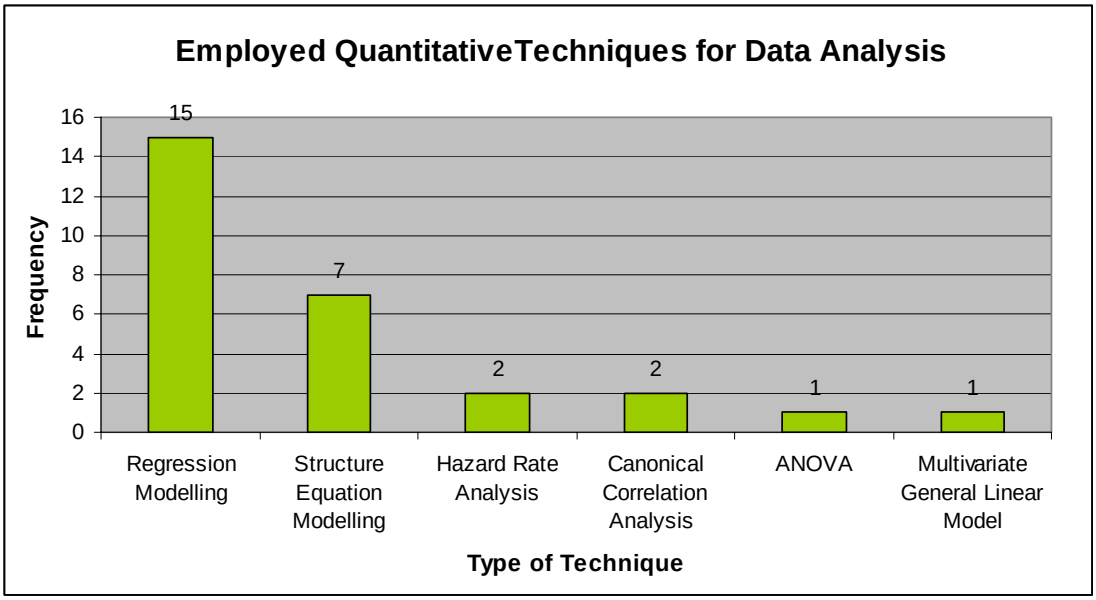


Figure 3-4: Statistics of Employed Quantitative Data Analysis Approaches

Data Analysis Technique	Frequency	Percentage
Regression Modelling	15	53.57%
Structure Equation Modelling	7	25.00%
Hazard Rate Analysis	2	7.14%
Canonical Correlation Analysis	2	7.14%
ANOVA	1	3.57%
Multivariate General Linear Model	1	3.57%
Total Number of Quantitative Researches	**28**	**100.00%**

Note: Quantitative approaches were used in 26 surveys, 1 patent analysis, and operation data analysis.

Table 3-5: Statistics of Employed Quantitative Data Analysis Approaches

3.4 Research Context

Geographical Areas

Figure 3-5 and table 3-6 below illustrate the transfer routes, i.e. from where (continents) the donor is located to where (continents) the recipient is located, of the sampled researches. Mainly, researchers endeavoured to capture a more complex type of transfer route – multiple (more than 2 continents) to multiple – for enhancing generalisability of research findings.

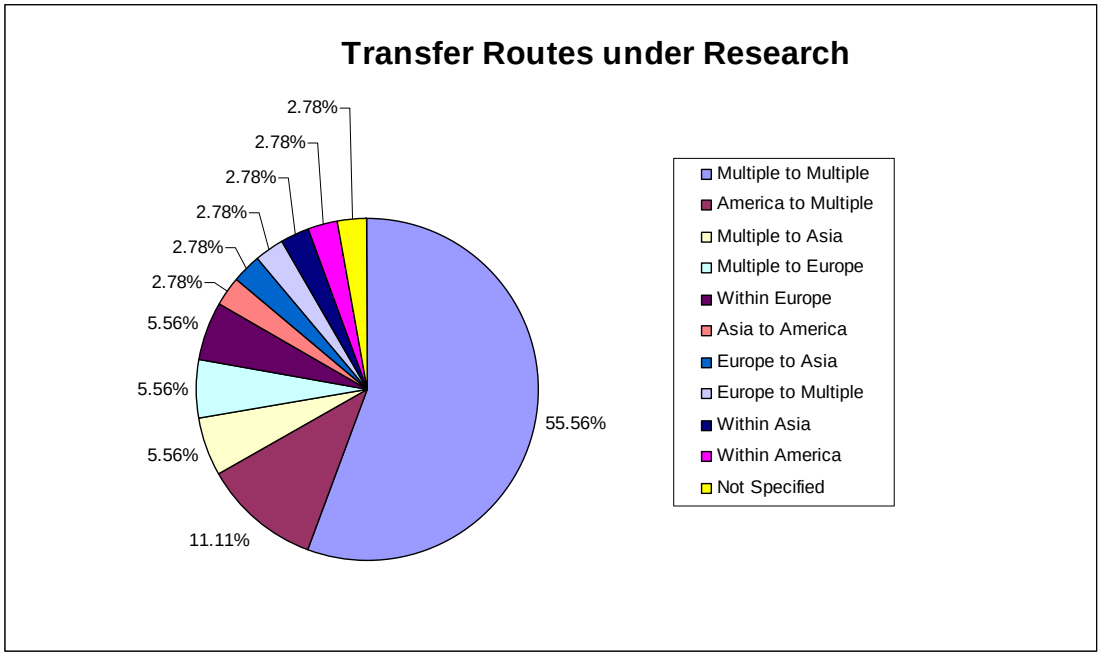


Figure 3-5: Statistics of Research Context – Geographical Areas

Transfer Routes	Frequency	Percentage
Multiple to Multiple	20	55.56%
America to Multiple	4	11.11%
Multiple to Asia	2	5.56%
Multiple to Europe	2	5.56%
Within Europe	2	5.56%
Asia to America	1	2.78%
Europe to Asia	1	2.78%
Europe to Multiple	1	2.78%
Within Asia	1	2.78%
Within America	1	2.78%
Not Specified	1	2.78%
Total Number of Researches	**36**	**100.00%**

Table 3-6: Statistics of Research Context – Geographical Areas

Country of Origin

Figure 3-6 and table 3-7 below demonstrate the countries of origin of the companies under investigation. From the statistics, American companies were the mostly researched target (46.94%), followed by European countries (34.68%). In Asia, only Japanese MNCs (8.16%) was under scrutiny.

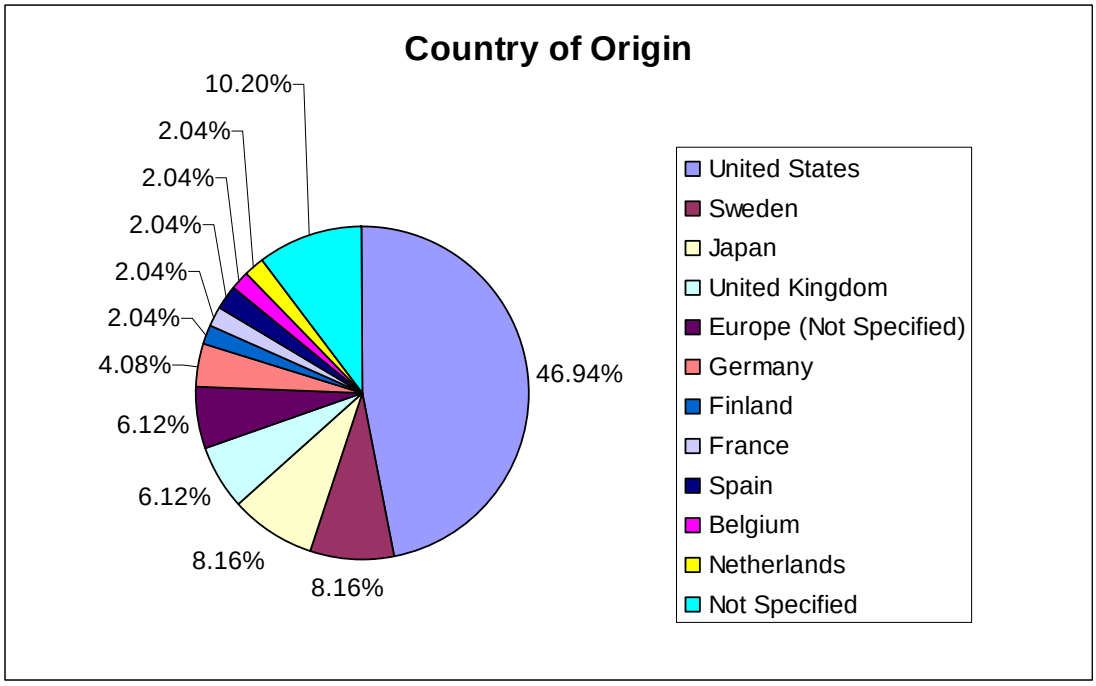


Figure 3-6: Statistics of Research Context – Country of Origin

Country of Origin	Frequency	Percentage
United States	23	46.94%
Sweden	4	8.16%
Japan	4	8.16%
United Kingdom	3	6.12%
Europe (Not Specified)	3	6.12%
Germany	2	4.08%
Finland	1	2.04%
France	1	2.04%
Spain	1	2.04%
Belgium	1	2.04%
Netherlands	1	2.04%
Not Specified	5	10.20%
Total Number of Researches	**49**	**100.00%**

Note: Some researches included MNCs headquartered in different countries

Table 3-7: Statistics of Research Context – Country of Origin

Industry

Figure 3-7 and table 3-8 exhibit the range and frequency of industries under research. From the statistics, high technology sector have drawn on most attention (30.77%).

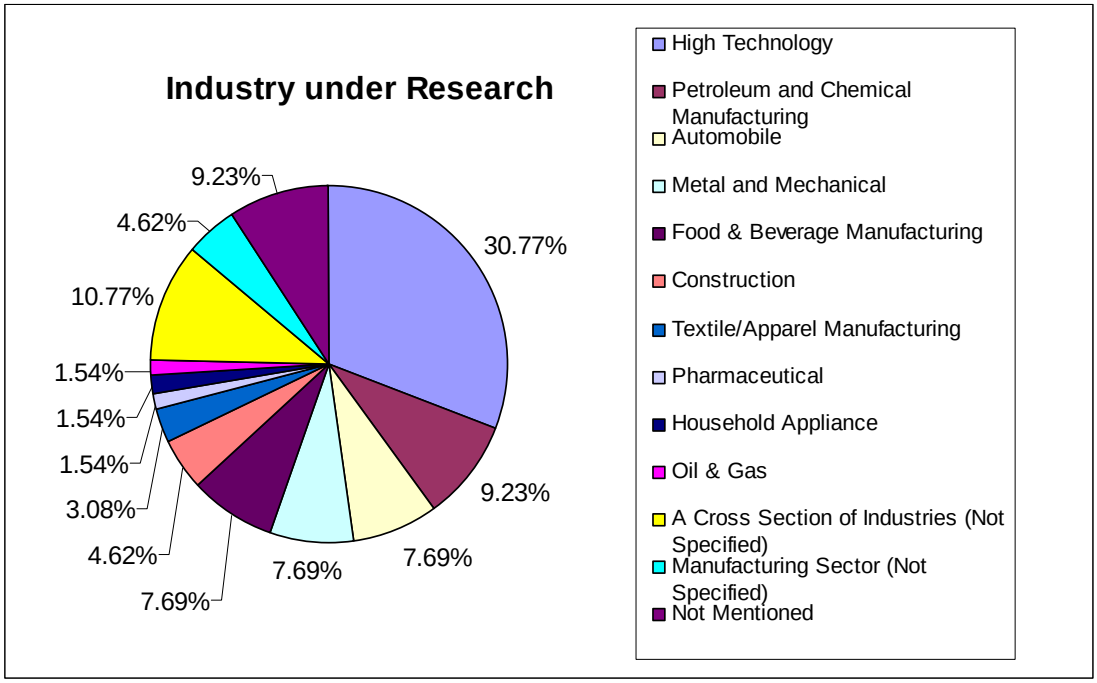


Figure 3-7: Statistics of Research Context – Industry

Researched Industry	Frequency	Percentage
High Technology	20	30.77%
Petroleum and Chemical Manufacturing	6	9.23%
Automobile	5	7.69%
Metal and Mechanical	5	7.69%
Food & Beverage Manufacturing	5	7.69%
Construction	3	4.62%
Textile/Apparel Manufacturing	2	3.08%
Pharmaceutical	1	1.54%
Household Appliance	1	1.54%
Oil & Gas	1	1.54%
A Cross Section of Industries (Not Specified)	7	10.77%
Manufacturing Sector (Not Specified)	3	4.62%
Not Mentioned	6	9.23%
Total Frequencies of Researched Industries	**65**	**100.00%**

Note: Commonly researches included multiple industries.

Table 3-8: Statistics of Research Context - Industry

Transfer Channel

As for the transfer channel, “within a MNC” was the most popular and dominant research context, and then followed by “joint ventures”.

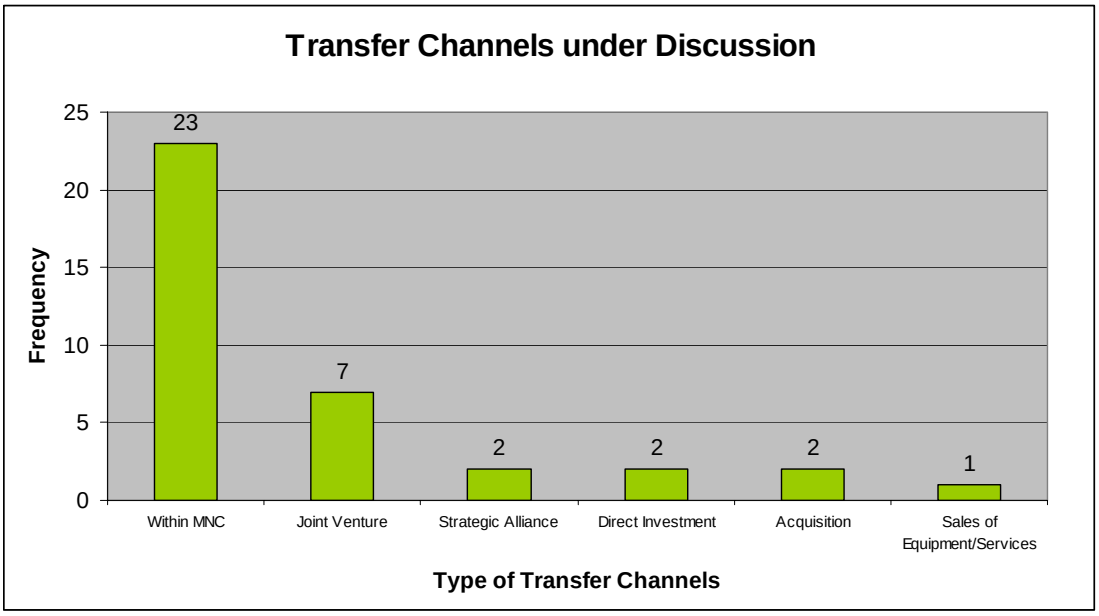


Figure 3-8: Statistics of Research Context – Transfer Channel

Transfer Channel	Frequency	Percentage
Within MNC	23	62.16%
Joint Venture	7	18.92%
Strategic Alliance	2	5.41%
Direct Investment	2	5.41%
Acquisition	2	5.41%
Sales of Equipment/Services	1	2.70%
Total Number of Researches	**37**	**100.00%**

Note: 1research was involved with 2 transfer channels.

Table 3-9: Statistics of Research Context – Transfer Channel

3.5 Unit of Analysis

Features of the unit of analysis in this research area were identified from the transferred subject under research and analytical point of view of research.

Figure 3-9 and table 3-10 below differentiate transferred subjects by the definition specified in section 1.4. From the figures, previous transferred subjects under investigation were mainly “knowledge”, whilst researchers defined it differently.

Moreover, from figure 3-10 and table 3-11 on the next page, researchers tended to undertake an objective view, i.e. neither solely from the donor’s or the recipient’s view, in their works. 36.11% of researchers departed from the view of recipient, whilst only a marginal 5.56% of researchers adopted the view of donor.

The Transferred Subject

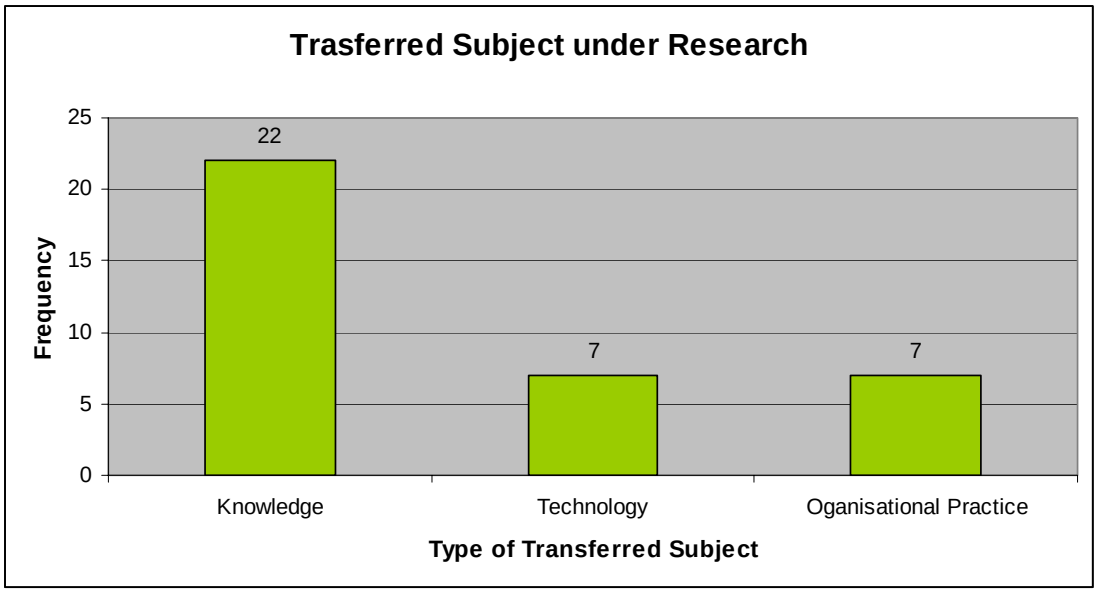


Figure 3-9: Statistics of the Transferred Subject under Research

Transferred Subject	Frequency	Percentage
Knowledge	22	61.11%
Technology	7	19.44%
Oganisational Practice	7	19.44%
Total Number of Researches	**36**	**100.00%**

Table 3-10: Statistics of the Transferred Subject under Research

Analytical Point of View

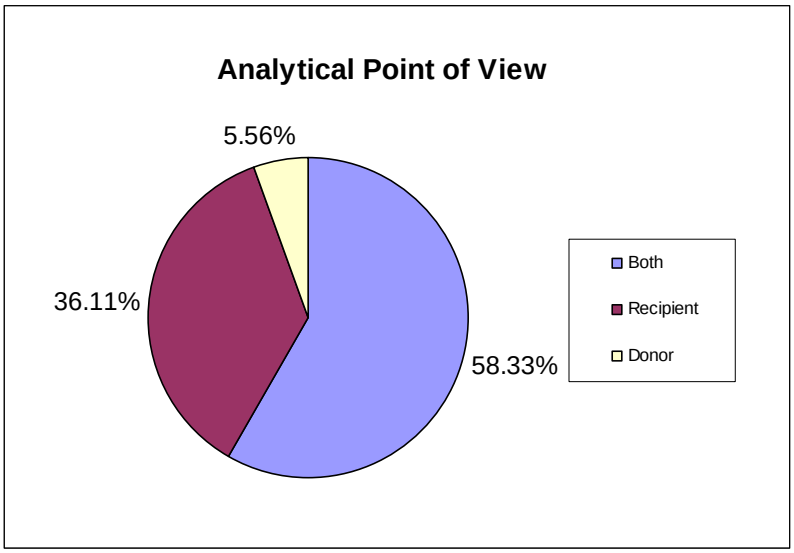


Figure 3-10: Statistics of Analytical Point of View

Analytical Point of View	Frequency	Percentage
Both	21	58.33%
Recipient	13	36.11%
Donor	2	5.56%
Total Number of Researches	**36**	100.00%

Table 3-11: Statistics of Analytical Point of View

3.6 Conclusion and Knowledge Gaps

In summary, the growing attention to intra-firm organisational resource transfer is evidenced by increasing publication of relevant academic works in the recent decade. However, the growth is predominantly driven by researchers in the Strategic Management field and International Management field, but less by scholars in the Operations Management field. This argument can be substantiated by the statistics, which show that preceding works were mainly published in international business related and strategic management related journals, but remarkably less in operations management related journals. These two facts reveal that: Firstly, this research area of interest is promising in terms of visibility in the academia; and secondly, there is a great potential for further exploration of transferred subjects associated with manufacturing operations (e.g. transfer of a production line).

In terms of the research design, major instruments previously employed were surveys that were conducted on perceptions of personnel involved with resource transfer and analysed by regression modelling (or similar techniques). These researches provide verifiable results and clear indications of salient factors in a statistical sense. However, the findings from a survey

are less capable of disclosing sophisticated context-dependent interactions between factors and capturing subtle human behaviours. In the sampled previous works, there are merely about one-fifth (22.22%) that have been done by the case study approach. It may suggest that, predicated on the indications by survey findings, our understanding of the phenomenon of interest can be furthered by in-depth field observations and cases analyses.

As for the context under research, over half (55.56%) of the sampled preceding researches were focused on transfers from and to multiple geographical areas. Their findings recommend how a transfer can be managed in general. However, it can be more intriguing whether the generalised findings can be applicable in a specific context (e.g. from country A to B, particularly between areas with significant cultural distance). Although some efforts have been made to the research on specific contexts, previous attentions were drawn predominantly to transfer between western countries, less to Asian countries, and none to African counties. Therefore, future research can further explore the transfers involved with those less researched geographical areas.

Moreover, the statistics reveal that a high proportion of previous researches were focused on American companies (46.94%) – headquartered in the United States – whilst less on European companies (34.68%) and on Asian companies (8.16%). It suggests that further attention can be directed to companies originated from Europe or Asia. The statistics also disclose that high-technology sector have drawn on significant attention (30.77%), compared to other industrial sectors. Future research can be also further extended to other industries, in which transfer activities are prevalent (e.g. automobile, food and beverage, pharmaceutical etc.).

From the figures, most studies (62.16%) were concentrated on transfers within MNCs in general. However, different transactions types (e.g. JV, M&A) as the conduits for transfer are less researched, except for JV, which drew on some attention. Organisational resource transfer between currently affiliated units of a MNC can be significantly distinct from the transfer between organisations that are merged but were independent, considering unaligned organisational cultures, organisational routines, etc.

In the previous works, “knowledge” is the most researched transferred subject (61.11%). As far as the entire range of organisational resources is concerned, previous research only address part of this research area of interest. Future research can be also extended to other types of organisational resources (i.e. technology and organisational practices).

From the previous discussion, it can be concluded that this research area of interest is still at its infant stage but drawing more and more attention of scholars from different disciplines. Knowledge gaps exist in various transfer contexts (in terms of the transfer route, the origin of a MNC and industry under investigation, and the transfer channel) and in different units of analysis (the type of transferred subject). These gaps require further efforts for enhancing our understanding.

Chapter Four: Qualitative Findings & Discussion

4.1 Introduction

Following the preceding chapter, which reveals some features of the research area of interest in a statistical sense; this chapter reports qualitative findings ascertained from the reviewed academic works.

The main body of this chapter consists of five sections which summarise and discuss previous research in terms of (1) the adopted theoretical lenses, (2) the perspectives of defining the success of a transfer, (3) employed analytical frameworks for the transfer, (4) factors influencing a transfer, and (5) the debate concerning replication or adaptation. By presenting these five themes, it is intended to render a clear overview of the previous researches on organisational resource transfer.

4.2 Theoretical Lenses

Transferring organisational resource per se is a complex phenomenon involved with at least two heterogeneous organisations (e.g. a donor and a recipient in a dyadic relationship) and through diversified transfer conduits (e.g. within a MNC, via a strategic alliance, etc.).

Focusing on different contexts, researchers have taken advantage of distinct theoretical lenses to examine this phenomenon. Constantly those lenses are interrelated and not mutually exclusive. More often than not researchers adopted multiple perspectives in a synergistic manner on their subjects under research.

The following subsections introduce eight theoretical perspectives frequently used in this research area, followed by associated propositions developed by the researchers holding these theoretical perspectives. Besides, brief commentaries on the application of respective lenses are attached to each subsection.

4.2.1 Organisational Communication Theory

To a large extent, organisational communication theory is predicated on human communication theory (Fisher, 1978). Despite the various perspectives held by researchers, the generalisable components of communication process consist of message, channel, sender/receiver, transmission, encoding/ decoding, meaning, feedback, and communication effect. Communication is typically considered a continuous and two-way exchange of messages, i.e. the sender and the receiver often serve both source and destination of message. Moreover, the sender and the receiver

formulate meanings by interpreting or making sense of the message through their own encoding and decoding schemes. The interpretation or sense-making is also facilitated by feedback. The interactions amongst components produce the communication effect – the outcome or general results of the message exchange process (Krone *et al*., 1987: p. 21).

Drawing on communication theory, Malik (2002) maintained that intra-firm technology transfers are two-way iterative, rather one-way linear, processes. In the broadcasting model (see figure 4-1) developed by Malik, he conceptualised the transfer of technology as processes through which the transmitter diffuses a message (technological artefacts, manuals, skills, etc.) via a mode (dependent upon the type of messages) to a receiver. Special emphases are placed on motivation of information transmitter, attention span of receiver, and evaluation of feedbacks from the receiver.

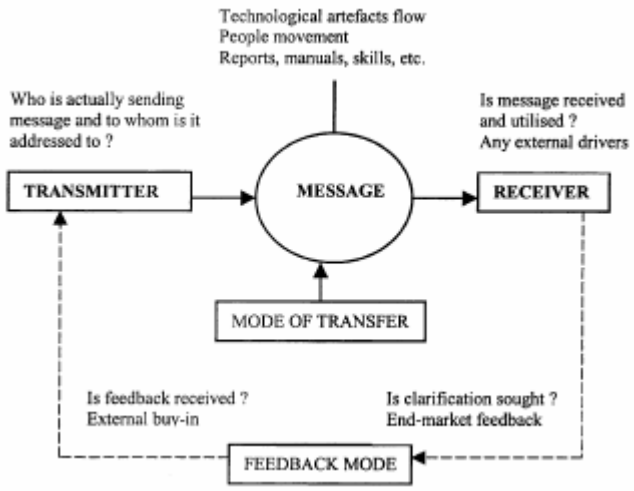


Figure 4-1: Malik's Technology Broadcasting Model (Source: Malik, 2002)

Besides, adopting communication perspective, Gupta and Govindarajan (2000) asserted that the knowledge flow between subsidiaries within a MNC is a function of five parameters: (1) relative value of the donor's knowledge stock determined by relevancy and non-duplicability to other units of the MNC, (2) the donor's motivational disposition associated with power within the organisation, (3) bandwidth and richness of transmission channels, (4) the recipient's motivational disposition associated with ego and power within the organization, and (5) the recipient's absorptive capacity, as a filter of transmitted signals, determined by prior related knowledge and homophily between the donor and the recipient.

In the study on the transfer of organisational resources, the application of organisational communication theory assists in framing a construct that incorporates key components in a transfer process and identifies their inter-relationships amongst these components. However, this lens is dominantly focused on the dyadic interactions between the message sender and the message receiver, and hence is less capable in capturing the intertwined effects derived from a network of multiple senders and receivers. Moreover it

is also inadequate alone in explaining the more sophisticated social and relational aspects of human behaviours occurring in accordance with a transfer process. Accordingly, communication theory is commonly combined with other perspectives for a better understanding of the transfer of organisational resources.

4.2.2 Knowledge-Based View

The knowledge-based perspective is built upon knowledge-based theory of the firm initially developed by Kogut and Zander's (1993, 1992), Grant (1996) Spender (1996). Through this lens, knowledge is a strategic resource of a firm and a single firm is viewed as a repository of knowledge with regard to how information is coded and action coordinated, and as a social community which creates and transfers knowledge (Kogut and Zander, 1993). A MNC is therefore considered a "heterogeneous network", in which knowledge is created in different units and transferred to inter-related units (Bartlett and Ghoshal, 1989).

Following this stream of thoughts, researchers have attempted to decipher organisational knowledge via different angles. Some researchers have focused on the composition of knowledge, whilst some have endeavoured to classify the dimensions of knowledge. Moreover, some researchers have attended to the locations where knowledge exists within an organisation.

A Componential View

A widely accepted classification of knowledge is predicated on a Polanyi's (1966) renowned statement, "*we (people) can know more than we can tell*". At organisational level, this argument is considered hold true – organisation knows more than what their contracts can say, given that contracts are formal language of a firm (Kogut and Zander, 1992). These statements highlight the major constituents of knowledge: explicit and tacit knowledge. Explicit knowledge refers to knowledge that is transmittable in formal, systematic language. On the contrary, tacit knowledge is difficult to be communicated and shared, and is highly personal, deeply rooted in action, commitment, and involvement with a specific context (Nonaka, 1994; Polanyi, 1966).

Another popular dichotomy of knowledge was proposed by Zander and Kogut (1992). They classified knowledge by information and know-how. By their definition, information is declarative factual statement that can be transmitted without loss of integrity given that the syntactical rules required for deciphering it are known. Know-how is the procedural recipe that is accumulated to allow one to do something smoothly and efficiently.

Recognising non-articulable and context-dependent natures of knowledge, Doz and Santos (1997) categorised organisational knowledge by two dimensions (tacitness and embeddedness) into four types: (1) Explicit knowledge, which is articulable and less context-dependent (e.g. technical drawings, trouble shooting guides); (2) Experiential knowledge, which is acquired through experience and learning, highly tacit, but low in

embeddedness (e.g. problem-solving skills); (3) Endemic knowledge, which is comprehended when the pertaining context is understood (e.g. standard operating procedures); and (4) Existential knowledge, which is learnt by "feeling and living" and developed through "indwelling in the situation (e.g. quanxi – the ways of relationship development specific to Chinese business environment). As shown in figure 4-2, the complexity of knowledge increase rightward and upward in the matrix.

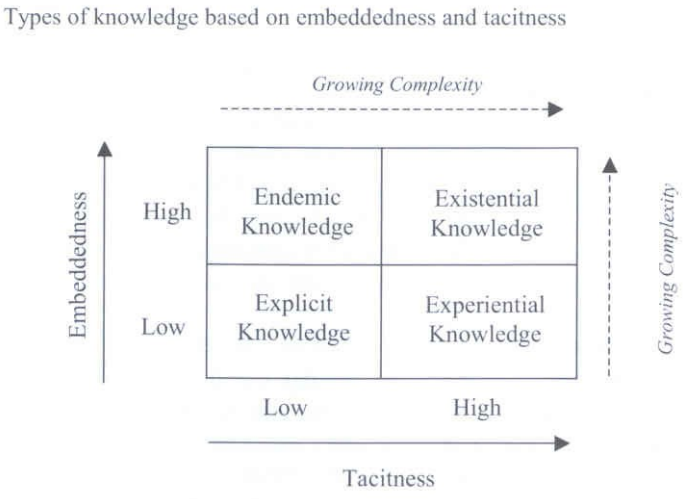


Figure 4-2: Types of Knowledge Based on Embeddedness and Tacitness (Source: Doz and Santos, 1997)

A Dimensional View

There are four dimensions of knowledge that are widely discussed in extensive knowledge-related literature: (1) *Codifiability* describes the extent to which specific knowledge can be structured into a set of identifiable rules and relationships that can be easily communicated (Zander and Kogut, 1995); (2) *Teachability* is defined as the ease by which specific knowledge can be taught, even when it cannot be codified, through the learning-by-doing form of training (Zander and Kogut, 1995). (3) *Complexity* refers to the number of interdependent parameters (technologies, individuals, and resources) that are linked to define a specific knowledge (Simonin, 1999; Zander and Kogut, 1995). (4) *Specificity* of knowledge derives from durable investment (resource and skill deployment) that is undertaken in support of particular transaction relationship with internal or external customers (Reed and DeFillippi, 1990; Williamson, 1985). Although these dimensions are distinguished, actually they are not independent and inter-related in nature.

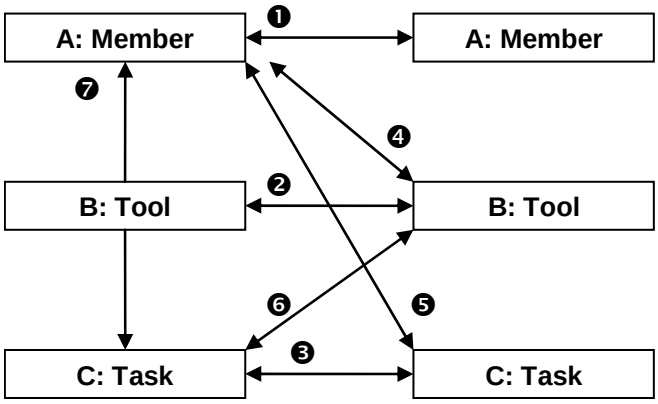
A Locational View

Departing from information processing theory, Walsh and Ungson (1991) posited that organisational memory resides in five retention facilities: (1) individual's experiences and observations; (2) organisational culture; (3) operational procedures for transformations from inputs to outputs; (4) structure of organisation and individual roles within; and (5) workplace

ecology. Wherein, organisational memory, consistent with the concept of organisational knowledge, is defined as the stored information, accumulated from the previous experience in decision-making and problem-solving, bear on present decisions.

Further developing Walsh and Ungson's proposition, Argote and Ingram (2000) asserted that organisational knowledge is embedded in various "reservoirs" that comprise three basic organizational elements (i.e. members, tools, and tasks) as well as networks formed through combining or crossing the elements (also refer to figure 4-3).

Typology of Knowledge Reservoirs



Element	Definition
A	Human components of organisation
B	Technological components (both hardware and software) of organisation
C	Reflection of organisation's goals, intentions, and purposes

Network	Definition
❶ A-A	Organisation's social network
❷ B-B	Combination of technologies
❸ C-C	Routines (sequences of tasks) within the organisation
❹ A-B	Assignment of members to tools
❺ A-C	Mapping of members onto tasks, e.g. who is good at which task
❻ B-C	Specification of a tool's function (to perform which tasks), e.g. which tools are best to perform which tasks
❼ A-B-C	Specification of which members performing which tasks with which tools

Figure 4-3: Typology of Knowledge Reservoirs (Source: Argote and Ingram, 2000)

As for the transfer of organisational resource from the knowledge-based perspective, Szulanski (1996) considered that the transfer of organisational practices is a dyadic exchange of organisational knowledge between the donor and the recipient. The exchange is an exact or partial replication of a web of coordinating relationships connecting specific resources.

Argote and Ingram (2000) departed from cognitive psychology and further defined knowledge transfer within an organisation as "*the process through which one unit (e.g. group, department, or division) is affected by the*

experience (knowledge) of another". Knowledge transfer is regarded moving of knowledge reservoirs and/or modification of knowledge reservoirs to/in the recipient unit.

Knowledge-based view is a predominant school of thought amongst strategic management theorists and also widely accepted by scholars from other disciplines. From this perspective, researches on organisational resource transfer are commonly under the title of "knowledge transfer", albeit varying transferred subjects under discussion. Contributions of this mainly lie in two aspects: (1) the investigation into attributes of knowledge, particularly causally ambiguous nature of it; and (2) the formulation of knowledge typology. Beside these two aspects, the inquiry into the sources of knowledge, i.e. the locational view described in the previous context, is also insightful. Based on precedent theoretical propositions and empirical findings, the difficulties in knowledge transfer can be better understood. However, as admitted by knowledge based view theorists, knowledge is socially constructed. This lens can achieve more efficacious explanatory power with the supplement of sociological perspectives.

4.2.3 Institutional Theory

In an early work, Selznick (1957) preached the distinction between *organisation*, as a mechanistic instrument designed to achieve specified goals, and *institution*, as an adaptive organic system affected by the social characteristics of its participants and pressures from its environment. He defined that "to institutionalise" is to infuse with value beyond the technical requirements of the task. These concepts have laid the ground work for institutional theory. Contemporary institutionalism focuses on the relationship between legitimacy and stability, take-for-granted norms and routines, in a wider organisational environment as opposed to only in local community (Powell and DiMaggio, 1991).

By accommodating the contemporary propositions (i.e. neo-institutional theory), Scott (1995) identified "three pillars" of institutions, i.e. the regulative systems, the normative systems, and the cultural-cognitive systems, which constitute or support institutions, as shown in the columns of table 4-1 on the next page. The rows present different dimensions of three pillars, which include assumptions and arguments behind the three pillars. The regulative pillar is discerned by its emphasis on that institutions constrain and regularise behaviour by rule-setting, monitoring, and sanctioning activities (such as rewards and punishments). The normative pillar is focused on its capacity to define the goals as well as legitimate ways to pursue them, by virtue of introducing values and norms. The cultural-cognitive pillar attends to the shared conceptions that construct the nature of social reality and the frames that create meanings.

	Regulative	*Normative*	*Cognitive*
Basis of compliance	Expedience	Social Obligation	Taken-for-grantedness Shared Understanding
Basis of Order	Regulative Rules	Binding Expectations	Constitutive Schema
Mechanisms	Coercive	Normative	Mimetic
Logic	Instrumentality	Appropriateness	Orthodoxy
Indicators	Rules Laws sanctions	Certification accreditation	Prevalence Isomorphism
Basis of legitimacy	Legally sanctioned	Morally governed	Culturally supported Conceptually correct

Table 4-1: Three Pillars of Institutions (Source: excerpted from Scott, 1995: p. 52)

In theorising transnational transfer of organisational practices by adopting institutional theory, Kostova (1999) viewed the transfer process as two aspects: (1) diffusion of a set of "*taken-for-granted ways of doing certain tasks*", which are combinations of written rules, cognitive elements, and reflections of values and beliefs; and (2) the transmission or creation of an "infused-with-value" meaning of those "ways". He also posited that the success of transfer is determined by the compatibility between the values implied by the practice and the value holding by the recipient organisation; and that the transfer is inhibited by institutional distance between the donor and the recipient countries. Wherein, institutional distance between countries is explained by Country Institutional Profile (CIP), a three dimensional construct consisting of regulatory, cognitive, and normative institutions (consistent with Scott's framework).

When studying the adoption of an organisational practice by subsidiaries of a MNC, Kostova and Roth (2002) addressed the problem of "institutional duality", which is the dilemma confronting a subsidiary to reconcile both isomorphic pressures and legitimacy within both the recipient country and the MNC, due to the fact that the transfer is embedded in a dual-faceted context. They conceptualised practice adoption with two aspects: (1) implementation, which is "*expression of the external and objective behaviours and the actions required, or implied, by the practice*"; and (2) internalisation, which is "*the state in which members of the recipient unit regard the practice as valuable for the unit and become committed to the practice*". They also posited that favourability of the institutional profiles (as defined in the previous paragraph) have a positive effect on both implementation and internalisation of an organisational practice.

The application of institutional theory to organisational resource transfer can be regarded a further extension of examination on the motivational aspect of transfer commonly stressed in the early research, but more insightful in a refined manner. This theory explains the main geneses of conflicts and motives swaying the transfer of resources, when the recipient is confronted with multiple aspects (i.e. regulative, normative, and cultural-cognitive aspects) of multiple institutional contexts (i.e. within the recipient organisation, within a network of MNC, and within the society where the recipient is situated). This

contextual view was relatively neglected in the previous research and left great potential for future research.

4.2.4 Social Network Theory

Social network theory focuses on improving our understanding of the linkages amongst social entities and the implications of these linkages. The social entities are referred to as actors, who represent individuals, companies, or collective social units. The linkages are referred to as social ties, which are relational connections taking various forms as dyad, triad, subgroup, or group. Accordingly, social networks can be defined as enduring patterns of "*a finite set or sets of actors and the relation or relations defined on them*" (Wasserman and Faust, 1994).

By introducing the social network perspective, Zhao *et al*. (2005) investigated four R&D capability transfers through IJVs in the Chinese automotive industry. They expanded the conventional unitary-actor (one donor organisation v.s. one recipient organisation) view on knowledge transfer and suggested that an IJV is situated in the convergent point of dual networks: (1) the donor network: the MNC network affiliated with the venture's foreign partner, and (2) the recipient network: the local partner's business group. It was argued that actors within the dual networks impact on effectiveness of knowledge transfer respectively.

In particular, the network effects on knowledge transfer are determined by an actor's position in the network and by the ties maintained between actors. Drawing on social network perspective, Tsai (2001) examined how the position of a unit within a MNC network impacts on organisational knowledge flow and on resulting business performance. He posited that the in-degree centrality (Freeman, 1979) of a unit within a network, defined by total number of units from which a focal unit has received knowledge, is positively related to business performance and a unit's capacity to innovate, as a result of efficient knowledge acquisition from other counterparts of the MNC.

Hansen (1999) studied the effects of network ties on the search-and-transfer problem of organisational knowledge. By considering interplay between knowledge complexity and ties strength[4], he argued that, given highly codified and independent knowledge, the weaker the inter-unit ties, the more efficiently the knowledge is transferred; and that, given highly non-codified and dependent knowledge, the weaker the inter-unit ties, the less efficiently the knowledge is transferred.

Social network theory extends the traditional view on sole dyadic interactions between the donor and the recipient, and recognises that actors are granted distinct strength (or weakness) by their network positions and relations. In a socially constructed setting under investigation, apart from

[4] The strength of a tie refers to the quality of relationship. Weak ties represent infrequent and distant relationships, whilst strong ties represent frequent and close relationships.

attributes of individual actors, social network theory contributes an alternative direction and approach for the research on organisational resource transfer.

4.2.5 Social Capital Theory

Social capital theory has long intellectual history dating back to eighteen century and recently used in a wide range of disciplines (Refer to Internet Resource[5]). Bourdieu (1986) introduced its contemporary discussions and defines social capital as "*the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition*". Amongst various authors who dimensionalised social capital distinctly, Nahapiet and Ghoshal (1998) incorporated different views and distinguished dimensions of social capital as (1) structural: the location of an actor's contact in a social structure of interactions; (2) relational: the assets rooted in relationships between actors; and (3) cognitive: a common understanding of collective goals and proper behaviour in a social system.

Parallel to the functions of physical and human capitals, it is argued and substantiated by different authors that social capital is a productive resource which serves to facilitate performance at different levels of analysis (Tsai and Ghoshal, 1998). In the central propositions of the theory: individual social capital is derived from an individual's network of relationships and considered a private goods, whilst organisational social capital is from an organisation's networks of relationships and regarded as a public goods (Kostova and Roth, 2003) These two levels of social capitals are often interrelated (Inkpen and Tsang, 2005)

To some extent, social capital theory merges social network theory by defining social capital's embeddedness in a network and by linking the strength of ties between actors to creation of social capital. Therefore, frequently the two theories are applied together to explain or predict social phenomena. (E.g. Inkpen and Tsang, 2005; Tsai and Ghoshal, 1998)

For instance, Inkpen and Tsang (2005) discussed social capital determinants of knowledge transfer within three different network types (intra-organisation, strategic alliance, and industrial district). Assuming the three dimensions of social capital - structural, cognitive, and relational - proposed by Nahapiet and Ghoshal (1998), they began with illustrating how social capital embedded in three network types (see table 4-2 on the following page) and inferred the impacts on knowledge transfer in different aspects of social capital across network types (see table 4-3 on the following page).

Contemporary development of social capital theory offers a structural framework for analysing social aspects in the process of transferring organisational resources. It aids in explaining and predicting the effectiveness and efficiency of a transfer by considering antecedents and consequences of

[5] Link to http://www.gnudung.com/intro.html, the site provides an overview of social capital theory including definitions, operationalisation, debates, etc.

human interactions. As specified in the previous subsections, addressing these social aspects further improves and complements our understanding of the research area of interest.

Social Capital Dimensions Across Network Types

Social Capital Dimensions	Intracorporate Network	Strategic Alliance	Industrial District
Structural			
Network ties	Fuzzy distinction between intramember and intermember ties	Intermember ties determining social ties within an alliance	Social ties as a foundation for intermember ties
Network configuration	Hierarchical, easy to establish connectivity between network members	Nonhierarchical, possibility of exploiting structural hole positions	Nonhierarchical and dense networks in a geographical region
Network stability	Stable membership	High rate of instability	Dynamic, with members joining and leaving the district
Cognitive			
Shared goals	Members working toward a common goal set by headquarters	Compatible goals but rarely common goals	Neither shared nor compatible goals
Shared culture	Overarching corporate culture	Cultural compromise/conflict among members	Industry recipe
Relational: Trust	Little risk of opportunism, institutional-based trust	Significant risk of opportunism, behavioral-based trust	Process-based personal trust

Table 4-2: Social Capital Dimensions across Three Network Types (Source: Inkpen and Tsang, 2005)

Conditions Facilitating Knowledge Transfer

Social Capital Dimensions	Intracorporate Network	Strategic Alliance	Industrial District
Structural			
Network ties	Personnel transfer between network members	Strong ties through repeated exchanges	Proximity to other members
Network configuration	Decentralization of authority by headquarters	Multiple knowledge connections between partners	Weak ties and boundary spanners to maintain relationships with various cliques
Network stability	Low personnel turnover organization wide	Noncompetitive approach to knowledge transfer	Stable personal relationships
Cognitive			
Shared goals	Shared vision and collective goals	Goal clarity	Interaction logic derived from cooperation
Shared culture	Accommodation for local or national cultures	Cultural diversity	Norms and rules to govern informal knowledge trading
Relational: Trust	Clear and transparent reward criteria to reduce mistrust among network members	Shadow of the future	Commercial transactions embedded in social ties

Table 4-3: Conditions Facilitating Knowledge Transfer (Source: Inkpen and Tsang, 2005)

4.2.6 Cultural Study

Culture is a human collectivity as propensity of a person. It is intangibly attached to a group of people and often unintelligible until evident artefacts

interpreted by people in the organisation with the support of trained professionals in a systematic fashion (Hofstede 2001). Culture can be deciphered at either societal level or organisational level as units of analysis.

Societal Culture

At society level, Hofstede (2001) illustrated culture with a core that comprises values surrounded by three layers - symbols, heroes, and rituals. By comparing cultures in different societies, theorists have (Hofstede, 2001; Glenn and Glenn, 1981; Hall, 1966) induced a variety of dimensions of cultural variation, e.g. contact vs. non-contact, Universalism vs. Particularism, associative vs. abstractive, Apollonian versus Dionysian, small vs. large power distance, weak vs. uncertainty avoidance, individualism vs. collectivism, masculinity vs. femininity, and long-tern vs. short-term orientation. By summarising the preceding findings, Triandis (1982) incorporated thirty dimensions into three fundamental aspects: perceptual differentiations, utilisation and evaluation of information, and patterns of action. The distance of societal cultures generates barriers to transnational transfer of manufacturing capabilities. In terms of the dimensions of cultural variation, the more significant distinction between the societal cultures where the donor and the recipient are embedded is, the more arduous a transfer becomes. (Bhagat *et al*, 2002; Kostova, 1999; Kedia and Bhagat, 1988)

Kedia and Bhagat (1988) hypothesized that in terms of absorbing and diffusing technology (1) technology leading to significant change in power distribution and rewards at the recipient site where emphasizes power distance is less likely to be effectively transferred; (2) individualistic cultures are more effective than collectivistic cultures in transferring technology; (3) masculine cultures are more effective than feminine cultures in transferring technology; and (4) abstractive cultures are more effective than associative cultures in transferring technology.

Bhagat *et al.* (2002) conceptualised four cultural patterns, (i.e. vertical individualist, vertical collectivist, horizontal individualist, and horizontal collectivist) and maintained that (1) in the individualist culture, organisations are better able to transfer and absorb knowledge that is explicit and independent, whilst in the collectivist culture, organisations are better able to transfer and absorb knowledge that is tacit and systemic; and (2) the difficulty of transfer escalate, from cultural homogeneity in collectivism/individualism, then homogeneity in verticalness/horizontalness, and to complete heterogeneity.

Organisational Culture

At organisational level, Schein (1985) defined organisational culture as "*the pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration*". Martin and Siehl (1983) further expanded Schein's conceptions by acknowledging a dominant culture coexisting with subcultures in an organisation and define the relationships between the

dominant corporate culture and the organisational subcultures as enhancing, orthogonal, and countering.

On the transnational transfer of organisational practices, Kostova (1999) asserted that the success of transfer is positively associated with the degree to which an organisational culture champions learning, change, and innovation.

Kedia and Bhagat (1988) adopted the negotiated order (Strauss, 1982) as dimensions of organisational cultural variation and posited that the differences in the negotiated orders between organisations affect the effectiveness of technology transfer. Wherein negotiated order is analysed by (1) the number of negotiators, their experience, and whom they represent; (2) the sequence and frequency of negotiations; (3) the relative balance of power amongst the concerned parties; (4) the stakes and visibility of the outcome of negotiations; (5) the complexity of the issues; and (6) the alternatives to avoiding or discontinuing negotiations.

Nevertheless it is widely agreed that organisational culture and the societal culture which organisational culture is erected upon or influenced by have impacts on the transfer of organisational resources. Apart from some theoretical propositions maintained by researchers, little attention has been drawn to seek systemic empirical evidence. This knowledge gap presents a starkly missing link in the theory building and deserves further exploration and confirmation.

4.2.7 Organisational Socialisation Theory

The concept of socialization is well established in organizational behaviour research. Socialisation is the process through which a new organisational member adapts from an outsider to an integrated and effective insider (Van Maanen and Schein, 1979). It applies to a member who crosses either internal organisation boundaries (e.g. functional, hierarchical) or external organisation boundaries (e.g. cross-organisational).The contentions of organisational socialisation theorists help in explaining the process and effects of socialisation in team-building. This lens mainly contributes to the understanding and development of managerial mechanisms in the process of knowledge transfer.

For example, by adopting socialisation perspective, Gupta and Govindarajan (2000) posited that implementation of socialisation mechanisms that induces greater interpersonal familiarity and personal affinity can enhance the openness of communication within a MNC. Further separating lateral (between peer subsidiaries) and vertical (between a subsidiary and the headquarters) socialisation mechanisms, they suggested that higher degree of lateral socialisation facilitates knowledge inflow and outflow between peer subsidiaries, and higher vertical socialisation improves flow between the headquarters and subsidiaries.

4.2.8 Agency Theory

Agency theory is applied when one party (the principal) delegates a work to another (the agent). Considering the asymmetric desires and goals between the principal and the agent, firstly, the principal is difficult or expensive to verify whether the agent behaves appropriately; and secondly, the principal and agent prefer different actions because of different risk preferences (Eisenhardt, 1989; Jensen and Meckling, 1976).

Within the context of a MNC, agency theorists view the interaction between the headquarters and a subsidiary as the principal-agent relationship. The incongruent goal with the headquarters and self-interested local management render a subsidiary's behaviour deviated from headquarters' expectations. In order to resolve this agency problem, the headquarters deploys a variety of complementary mechanisms, e.g. behaviour control to limit the ability of subsidiaries, or incentives to align the goals of the headquarters and subsidiaries (O'Donnell, 2000). Given that free flow of resources within the network of a MNC for reducing the costs of re-inventing the wheel is desired by the headquarters, agency theory can offer a meaningful lens to conceive of and examine the effectiveness of different managerial measures.

For instance, adopting agency theory, Björkman *et al*. (2004) posited that knowledge transfer between units of MNC is reinforced, when (1) the higher a subsidiary's perceived importance is attached by headquarters as a performance evaluation criterion; (2) when the greater the regional and overall corporate performances, not solely subsidiary performance, is translated into financial compensation of subsidiary senior management; and (3) when the more the number of expatriate managers is assigned to subsidiaries.

4.3 Definition of the Success of a Transfer

The main objective of transferring organisational resource is to induce changes at the recipient site. Accordingly, the effectiveness and efficiency of a transfer can be measured by the consequential changes at the recipient site. (Argote and Ingram, 2000) Adopting different perspectives, theorists and researchers have proposed different measures to evaluate the success of a transfer.

From the communication-based view, Malik (2002) assessed the success of a technology transfer by whether the transmitter can send the message, whether the receiver can receive and understand the message, and whether the technology being transferred can actually achieve operational status at the receiving destination.

From the operations management-based view, Galbraith (1990) suggested that the success or failure of the transfer of core manufacturing technology can be determined by a firm's ability to recover productivity and know-how loss resulting from re-learning of the donor's knowledge at the recipient site.

Time (rapidity of recovery of the loss) and completeness (the degree of restoration of the loss) and are two indicators for the success of transfer.

From the knowledge-based view: Argote and Ingram (2000) proposed that, in order to measure knowledge transfer, the recipient firm must capture changes in its knowledge reservoirs, consisting of three organisational elements (members, tools, and tasks) as well as networks linking the elements.

From the institutionalisation-based view, accounting for the success of transnational transfer of organisational, Kostova (1999) defined the success of a transfer as the degree of institutionalisation of a transferred subject in the recipient institution. Institutionalisation is evaluated by implementation (the degree to which formal rules implied by the practice are followed) and internalisation (the state in which members of the recipient organisation infuse symbolic meanings into the transferred practice).

Notwithstanding the criteria for measuring performance of organisational resource transfer have been put forth by researchers drawing on distinct perspectives, there are still tremendous challenges in terms of operationalisability of the aforementioned assertions. The fact calls for further research on more comprehensive and effective evaluation of transfer efforts.

4.4 Analytical Frameworks for the Transfer

By integrating extant literature or creating constructs based on field observation, researchers have conceptualised the transfer of organisational resource in different research contexts. Previous conceptualisations were predicated on (1) processual analysis of a transfer, (2) classification of factors influencing a transfer, or (3) typology of recipient's acceptance behaviours. Those framed constructs facilitate systematisation and theorisation of organisational resource transfer. Although this research area is far from mature in terms of building systematic principles, current achievement have shed some light on further development of consistent and convincing theories.

In the following subsections, four analytical frameworks proposed by respective researchers are presented in the order of different approaches to conceptualisation:

4.4.1 Processual Framework

In a survey of 122 transfers of organisational practices, including both technical (e.g. software development procedure) and managerial practices (e.g. Activity-Based Costing), Szulanski (2000) indicated that the transfer process consist of four stages (see figure 4-4 on the next page): (1) *Initiation*: refers to recognising the opportunity to transfer, i.e. a gap of business performance or knowledge addressing the gap; (2) *Implementation*: refer to the exchange of information and resources and establishment of ties between

the donor and the recipient; Attention of actors is drawn to pre-empt problems encountered in the previous transfers and to mitigate the sense of threat at the recipient site; (3) *Ramp-up*: refer to initial usage of the newly acquired knowledge. The managerial focus is on identifying and resolving unexpected problems at the previous stages; and (4) *Integration*: refer to the progressive routinization, after the satisfactory results are initially secured. The efforts are made to reconcile intra-organisational conflicts. He asserted that the second and third stages are involved with initially "learning before doing", i.e. learning by planning or by experimenting, and then "learning by doing". As for the final stage, subsequent follow-through and evaluation are made to integrate the new practice with existing practices of the recipient.

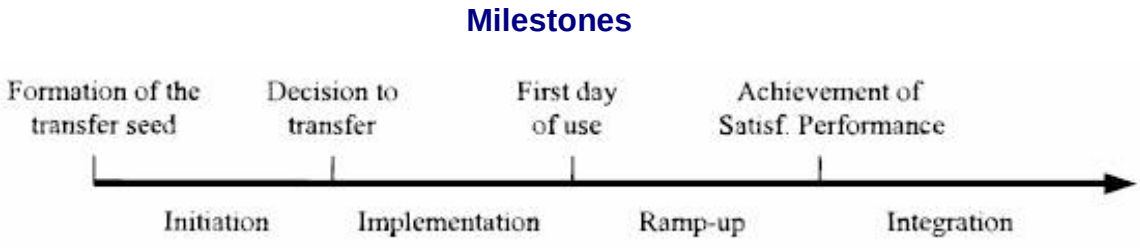


Figure 4-4: The Process of Knowledge Transfer (Source: Szulanski, 2000)

Moreover, he found that (1) attributes of the donor ("motivation of the source" and "perceived reliability of the source") impact on the first three stages, but not on the final stage; (2) Attributes of the recipient ("motivation of the recipient" and "the recipient's absorptive capacity") impact on the last three stages of transfer, but not on the first stage; and (3) the attribute of knowledge (causal ambiguity) influences the transfer all through the process, but with slight abatement at the last stage. The findings confirm a view that in the beginning of the transfer, attributes of the donor are more influential, whilst the influence of attributes of the recipient increases with time moving on.

In addition, undertaking the case study approach, Maritan and Brush (2003) compared four projects of transferring flow manufacturing practice to four plants within an American manufacturing company. From the field investigation, two sub-processes (Pre-Implementation and Implementation), which consist of four stages in each sub-process, were identified in the manufacturing practice transfer (see table 4-4 on the next page). In addition, they observed that a transfer does not proceed invariably in a progressive linear manner. Actually the status of a transfer more often than not moves back and forth along the continuum of process (as the two sub-processes and eight stages that they identified), until the project is accomplished or abandoned.

1. Pre-implementation sub-process

Stage:	Assess plant endowment	Train plant management	Redesign processes	Disseminate training and buy-in
	Determine initial conditions for transfer Inventory resources and capabilities, particularly equipment, production technology, skills, management talent, culture	Decide who will be trained: number of managers to train, what functions represented, what technical areas represented Decide who will do the training: internal sources and if so from where, or mix of internal and external Train managers in philosophy and mechanics of flow Use training to get plant management buy-in	Trained managers decide on scope of implementation: in which parts of plant to apply flow principles, where to apply flow first Identify value-added steps Decide how to redesign each step for flow Plan for connection of these separate initial changes to a demand pull system linking them	Decide which plant line workers to train: team leaders only or workers involved in initial application of flow or all plant workers Decide which plant support staff to train: which functional areas Use training to get plant worker buy-in

2. Implementation Sub-process

Stage:	Initiate implementation	Stabilize and consolidate	Use new skills competitively	Leverage and exploit benefits
	Convert elements of production process to incorporate flow techniques based on scope determined during pre-implementation Teach plant line workers to monitor production for problems and keep plant engineers informed so they can learn how new system works Experiment to problem solve and find stable operating parameters Alter production process to a 'point-of-no-return' to the old system. Make commitment to flow manufacturing	Consolidate changes made in previous stage Learn to control system as designed: identify control limits, learn to differentiate sources of volatility Identify and understand specific performance improvements Decide if initial implementation will be rolled out to other parts of plant and confirm or amend plans made in redesign stage	Take advantage of benefits of new production system Explicitly incorporate actual customer orders into system	Look beyond current demand and current customers for opportunities to exploit new capabilities Decide which new customers and markets to pursue

Table 4-4: The Process of Transferring Flow Manufacturing
(Source: Maritan and Brush, 2003)

4.4.2 Attributive Framework

By grouping factors influencing the manufacturing practice transfer into appropriateness/robustness factors and transferability factors, Grant and Gregory (1997) developed an analytical construct for assessing feasibility of a transfer. In their definitions: (1) An "appropriate" practice is that can be transferred unadapted to fit a set of recipient conditions; (2) A "robust" practice is that can be transferred unadapted to fit any set of recipient conditions; (3) The transferability of a process is its innate, host-independent ability to be adapted (where necessary), transmitted and assimilated, within

reasonable time and resource constraints. (See table 4-5 below for the factors included in this construct)

Appropriateness/robustness factors	Transferability factors
Transfer market Target market demand and competitive characteristics and product needs	*Knowledge* Amount and stage of knowledge Dependence on tacit knowledge Process has been transferred before
Host labour Productivity, cost and skill of direct/indirect labour Education and language homogeneity Labour turnover	*Obsolescence and "bespokeness"* Technology is bespoke, redundant or obsolete Documentation is up-to-date and representative
Host organization's capabilities Technical capabilities Familiarity with manufacturing methods Support capabilities Organizational structure	*Ability to package* Ability to transfer SKD or CKD Ability to split process into sub-processes Ability to embody or codify knowledge Ability to protect IPR
Host infrastructure Quality, cost and availability of local utilities Availability, cost and reliability of telecommunications, road, rail, shipping and air-freight infrastructure Space and format of buildings	*Adaptability* Availability of alternatives Need for pilot Availability of knowledge for adaptation Willingness to perform adaptations
Suppliers Quality, cost, delivery, flexibility, service and proximity of local or international suppliers	
Host culture Individualism and uncertainty avoidance Power distance Work practices, masculinity/femininity Approach to problem solving and quality perception	
Host environment Local temperature range, humidity, and air quality	
Host government/legal requirements Legal demands, import duties and quotas Labour law Approval and licence requirements Government emission regulations Plant location planning permission	
Financing Cost of land and capital Cost of inventory Foreign exchange requirement	

Table 4-5: Grant and Gregory's Framework for Analysing Fitness for Transfer (Source: Grant and Gregory, 1997)

From a case study on Philip Electronic in India, their findings suggested that (1) Knowledge on "appropriateness" of a practice facilitates the location decision or partner selection for that practice; (2) An understanding of the relationship between the recipient's characteristics and the candidate manufacturing practices for transfer assists in choosing an appropriate process for transfer to the recipient; (3) Developing the robustness of current in-house practices improves manufacturing mobility and intra-firm network

commonality so as to avoid adaptation costs; and (4) The transferability of a practice can be assessed prior to a transfer. Hence a firm can better plan the training methods and support required.

4.4.3 Typological Framework

Studying subsidiaries' adoption behaviours with regard to mandated transfers of quality management practices, Kostova and Roth (2002) identified four distinct adoption patterns from their survey findings (see figure 4-5 below). Each group is characterised by varying levels of dependence on, trust in, and identification with the headquarters, and by different degrees of compatibility between four groups of subsidiaries and the headquarters in terms of institutional profile (regulatory, cognitive, and normative).

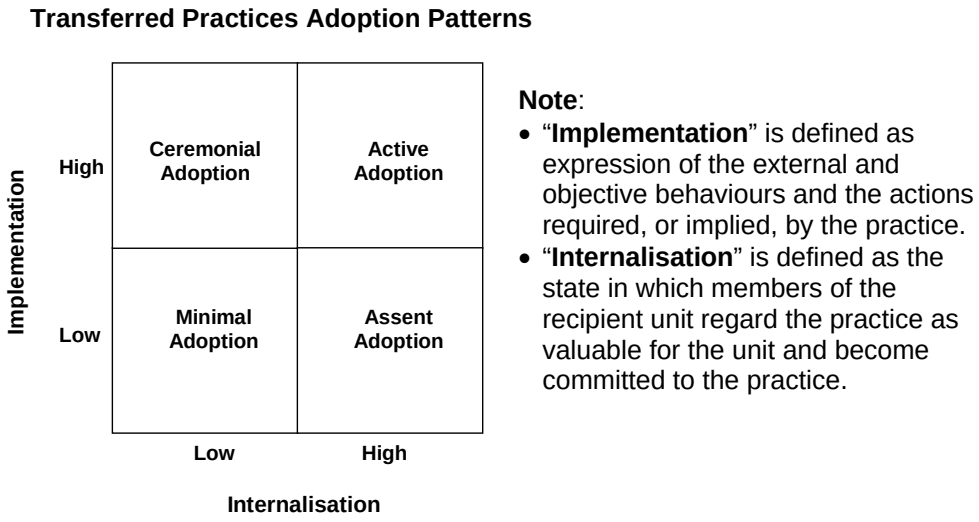


Figure 4-5: Transferred Practices Adoption Patterns (Source: Kostova and Roth, 2002)

The four patterns include:

(1) *Active Adoption Group* demonstrates both high degrees of implementation and internalisation. This group is characterised by highest compatibility of cognitive and normative institution and by the highest trust in and identification with the headquarters.

(2) *Minimal Adoption Group*, which demonstrates both low levels of implementation and internalisation, accounts for the least portion of the observations. This group is characterised by the lowest compatibility of cognitive and normative institutions and by the lowest dependence on and trust in the headquarters.

(3) *Assent Adoption Group* demonstrates a high degree of internalisation but a low degree of implementation. This group is characterised by the

lowest compatibility of regulatory institution and identification with, but the highest dependence on the headquarters.

(4) *Ceremonial Adoption Group*, which demonstrates a high level of implementation but a low level of internalisation, constitutes a substantial portion of the observations. This group is characterised by the highest compatibility of regulatory institution.

Their findings provided insights into the adoption behaviour from the institutional and relational perspective. This distinction is meaningful in terms of guiding pre-emptive design of a transfer and managerial efforts through the transfer process.

The four analytical frameworks illustrated in the preceding subsections present the systemisation attempts that have been made to date in this research area. However, on account of complexity of this phenomenon of interest and immaturity of current research achievement, the four frameworks appear disconnected and incomplete to an extent. The fact suggests that more research is required to integrate extant findings and to develop frameworks with greater explanatory power.

4.5 Factors Influencing a Transfer

Drawing on distinct theoretical perspectives (see section 4.2 for a review), researchers tested their arguments with respect to determinants of successful organisational resource transfer in different research contexts. Those efforts have identified considerable factors that are influential to a transfer.

By collating some extant findings ascertained from this systematic literature review, the following subsections present factors influencing a transfer. For the ease of discussion, all the factors[6] are classified into 7 groups, including (1) Characteristics of the Transferred Subjects, (2) Characteristics of the Donor, (3) Characteristics of the Recipient, (4) Characteristics of Actors' Interaction, (5) Managerial Mechanisms, (6) Characteristics of the Transfer Channels, and (7) Contextual Characteristics.

4.5.1 Characteristics of the Transferred Subjects

Predominantly, previous investigation into the characteristics of transferred subjects centres on causally ambiguous nature of knowledge (Reed and DeFillippi, 1990). By dimensionalising, researchers have achieved better understanding of causal ambiguity associated with knowledge. Furthermore,

[6] One point worthy of noting: Actors' motivation, which is commonly cited and researched, is not included in the factors below. The exclusion in the discussion is based on two reasons: firstly, motivation is a widely confirmed and self-evident factor; and secondly, most of the factors delineated latter, to various extents, lead to motivational outcomes.

another key issue is regarding how the attributes of transferred subjects link to the recipient's adoption behaviour. These factors are presented as following:

4.5.1.1 Maturity

Maturity of an organisational resource is related to its position in the life cycle, but not necessarily related to the time elapsed since the invention of the resource. Galbraith (1990) found that a manufacturing technology on its early stage of life cycle have negative impact on the initial level of productivity at the recipient site. Teece (1977) also found that the age of a technology determines the cost of international transfer. Zander and Kogut (1995) attributed the fact to the codification of knowledge. Older technologies tend to be better codified and therefore less costly to transfer.

4.5.1.2 Four Dimensions of Knowledge

Organisation resources are often viewed as tangible or intangible products of organisational knowledge. Moreover, knowledge per se is considered a critical organisational resource (Kogut and Zander, 1993; Grant, 1996; Spender, 1996). Following this stream of arguments, a variety of subjects being transferred are examined by this knowledge-based view.

There are four attributes of knowledge that are generally used to define knowledge and regarded factors influencing knowledge transfer, i.e. complexity, codifiability/tacitness, teachability, and specificity of knowledge. Definitions of the four attributes and their substantiated impacts on transfer are presented respectively below:

Complexity refers to the number of interdependent parameters (technologies, individuals, and resources) that are linked to define a specific knowledge (Simonin, 1999; Zander and Kogut, 1995). Galbraith (1990) found that complexity of core manufacturing technology have negative impact on the initial level of productivity at the recipient site after transfer. In the context of strategic alliances, Simonin's (1999) findings also suggested that complexity contributes to causal ambiguity of knowledge significantly, especially under the circumstances that (1) the recipient has lower learning capacity, (2) the partnership is at the early stage, and (3) both partners lack of previous experience of collaboration.

Codifiability/Tacitness describes the extent to which specific knowledge can be structured into a set of identifiable rules and relationships that can be easily communicated (Zander and Kogut, 1995). In a survey of 20 Swedish companies, Zander and Kogut (1995) found that the codifiability of an innovation is positively related to the speed of transfer of the innovation. In both the contexts of IJVs and international acquisitions, the negative effect of tacitness (non-codifiability) on transfer was also confirmed (Bresman et al., 1999; Pak and Park, 2004). Nevertheless, through empirical investigation, it

was revealed that stronger relational ties between the donor and the recipient can effectively mitigate the influence of tacitness (Dhanaraj *et al*., 2004).

Specificity of knowledge derives from durable investment (resource and skill deployment) that is undertaken in support of particular transaction relationship with internal or external customers (Reed and DeFillippi, 1990; Williamson, 1985). High degree of investment leads to specialised knowledge, which is difficult to be applied to other contexts. Its influence on knowledge transfer was testified by Pak and Park's (2004) study of IJVs. They also found that specificity has more negative effect on transfer of manufacturing process (more codified knowledge) than on new product development (more tacit knowledge).

Teachability is defined as the ease by which specific knowledge can be taught, even when it cannot be codified, through the learning-by-doing form of training (Zander and Kogut, 1995). In their investigation into the spread of Swedish innovations, Zander and Kogut (1995) found that the teachability of an innovation is positively related to the speed of transfer of the innovation.

4.5.1.3 Causal Ambiguity

Causal ambiguity refers to unclear connections between business actions and results (Lippman and Rumelt, 1982: p. 420). The investigation into causal ambiguity commenced with inimitability of organisational competences by rivalry. However, the difficulty in mimicry by the competitor also causes resource immobility within an organisation (Lippman and Rumelt, 1982). In the early arguments, the ambiguity is considered associated with endogenous factors, mainly tacitness, complexity, and specificity of knowledge (Reed and DeFillippi, 1990). Later, an exogenous factor – irreducible uncertainty – is reckoned as the source of ambiguity. Wherein, irreducible uncertainty is derived from imperfect understanding of the idiosyncratic features of a context where knowledge is applied, particularly to a new environment (Szulanski, 1996). Empirical findings have widely evidenced the impact of causally ambiguous knowledge on transfer activities:

Studying 122 transfers of organisational practices, Szulanski (1996) identified causal ambiguity of knowledge as one of the major difficulties in transferring those practices. The significant effect of causal ambiguity lasts throughout the timeframe of transfer process – four processual stages: initiating, implementing, ramp-up, and integrating (Szulanski, 2000).

In another research context, knowledge transfer between strategic alliance partners involving 147 US-based MNCs, Simonin (2004; 1999) also substantiated the consistent impacts of casual ambiguity on knowledge transfer cross 7 sets of group analyses (refer to table 4-6 on the next page) – in terms of organisational culture of learning, learning capacity, firm size, competitiveness between partners, alliance form, alliance duration, and collaborative know-how.

Moreover, the construct of causal ambiguity has been further developed by exploring the antecedents of ambiguity.

Simonin (2004) identified 5 antecedents of causal ambiguity as (1) tacitness of knowledge, (2) complexity of knowledge, (3) partners' previous technological experiences associated with the transferred knowledge, (4) national cultural asymmetry between partners, and (5) dissimilarity between partners' business practices, institutional heritages, and organisational cultures. Amongst the antecedents, tacitness contributes to causal ambiguity significantly cross 7 sets of contextual factors and is regarded the foremost factor. Other findings from the analyses of different moderating factors are as following: (refer to table 4-6 below)

(1) Alliance duration: the effects of complexity of knowledge and technological experience on ambiguity disappear over time;

(2) Learning capacity resulting from organisational resources commitment: given higher levels of resources allocated to a transfer, the effect of tacitness is mitigated and the effects of complexity, technological experience, and national culture asymmetry disappear;

(3) Collaborative know-how acquired from previous alliance experience: given higher collaborative how-how, the effects of complexity, national culture asymmetry, and dissimilarity between partnering organisations disappear;

Summary of Simonin's Findings on Knowledge Transfer between Strategic Alliance (Group Analysis)

Impact of A on B (hypothesized positive or negative effect)	Grouping of the Sample (n = 174 MNCs)													
	Organisational Culture		Learning Capacity		Firm Size		Competitive Regime		Alliance Form		Alliance Duration		Collaborative Know-how	
	Double Loop	Single Loop	High	Low	Large	Small	Competitive	Not	Non-Equity	Equity	Older	Younger	High	Low
	n1 =91	n2=56	n1 = 75	n2=72	n1=74	n2=73	n1=85	n2=62	n1=83	n2=64	n1=85	n2=62	n1=85	n2=62
Causal Ambiguity on Knowledge Transfer (-)	✪	✪	✪	✪	✪	✪	✪	✪	✪	✪	✪	✪	✪	✪
Learning Intent on Transfer (+)	✪	✪	NA	NA	✪	✪	✪	✪	✪	✪	NA	NA	NA	NA
Partner Protectiveness on Transfer (-)	×	✪	NA	NA	✪	×	✪	×	✪	×	NA	NA	NA	NA
Resource-based Learning Capacity on Transfer (+)	×	×	NA	NA	×	×	×	(-)	×	×	NA	NA	NA	NA
Incentive-based Learning Capacity on Transfer (+)	×	✪	NA	NA	✪	×	×	✪	×	✪	NA	NA	NA	NA
Cognitive-based Learning Capacity on Transfer (+)	×	×	NA	NA	×	×	×	✪	✪	×	NA	NA	NA	NA
Tacitness of Knowledge on Ambiguity (+)	✪	✪	✪	✪	✪	✪	✪	✪	✪	✪	✪	✪	✪	✪
Specificity of Knowledge on Ambiguity (+)	NA	NA	×	×	NA	NA	NA	NA	NA	NA	×	×	×	×
Complexity of Knowledge on Ambiguity (+)	NA	NA	×	✪	NA	NA	NA	NA	NA	NA	×	✪	×	✪
Technological Experience on Ambiguity (-)	NA	NA	×	✪	NA	NA	NA	NA	NA	NA	×	✪	✪	✪
Partner Protectiveness on Ambiguity (+)	✪	×	×	×	×	×	×	✪	×	×	×	×	×	×
National Culture Asymmetry on Ambiguity (+)	NA	NA	×	✪	NA	NA	NA	NA	NA	NA	×	×	×	✪
Organisational Distance on Ambiguity (+)	NA	NA	✪	✪	NA	NA	NA	NA	NA	NA	✪	✪	×	✪
Learning Intent on Resource-based Learning Capacity (+)	✪	✪	NA	NA	×	✪	×	✪	✪	×	NA	NA	NA	NA
Learning Intent on Incentive-based Learning Capacity (+)	×	×	NA	NA	×	✪	×	×	✪	×	NA	NA	NA	NA
Learning Intent on Cognitive-based Learning Capacity (+)	✪	×	NA	NA	✪	✪	✪	✪	✪	✪	NA	NA	NA	NA

Note:"✪" denotes "statistically significant"; "×" denotes "statistically insignificant"; and "NA" denotes "not tested".

Table 4-6: Summary of Simonin's Findings (Source: Summarised from Simonin 1999, 2004)

Undoubtedly, causal ambiguity (and its associated factors) has taken up the central position of contemporary research on organisational resource transfer. However, as Simonin (1999) pointed out, the causality of ambiguity as well as the interplay between ambiguity and organisational attributes/ transfer conduits are worthy of further empirical validation.

4.5.1.4 Perceived Value

The perceived value of the resource being transferred is also proven influential in the transfer process. Perception of the value of a transferred subject can be explained (1) by the transferred subject's impact on organisational performance, (2) by the quantity of invested resources associated with the transfer, and (3) by utility of combining the transferred knowledge with a firm's existent knowledge.

For instance, Hottenstein *et al*. (1999) found that the greater the influence on operating performance a technology has, the more probable the diffusion of the technology will be successful. Moreover, the greater the financial stake of a technology is, the more possible the initial productivity loss (compared to normal productivity at the donor site) is minimised in a transfer (Galbraith, 1990). Similarly, Pak and Park (2004) concluded that desirability of knowledge, which refers to usefulness in combination with a firm's current knowledge, facilitates a transfer significantly. Likewise financial/technical value of the transferred knowledge promotes a transfer.

Furthermore, investigating adoption processes of information technology, Venkatesh and Davis (2000) offered an explanation for human acceptance behaviour. In the field study on four organisations, they found that the usage behaviour of new technology is significantly related to people's intention to use, which is then determined by usefulness and ease of use perceived by the users. The perceived usefulness is evidenced a function of (1) *subjective norm*: one's perception that most people who are important to him/her think he/she should or should not perform the behaviour in question; (2) *image*: the degree to which use of an innovation is perceived to enhance one's social status; (3) *job relevance*: one's perception regarding the degree to which the new technology is applicable to his/her job; (4) *output quality*: how well the technology performs tasks relevant to one's job; and (5) *result demonstrability*: tangibility of the results of using the new technology.

4.5.2 Characteristics of the Donor

The impact of characteristics of the donor has drawn little attention from researchers. This concern was with the donor's previous experience in organisational resource transfer.

4.5.2.1 Previous Collaborative Experience

Extant findings on the impact of the donor's experience on a transfer are intriguing. On the one hand, previous experience of failure in technology initial implementation (e.g. cost overruns or time delay) are likely to foster a negative sentiment and therefore impede further diffusion to other sites. However, experience in successful implementations was found to foster the diffusion within MNCs (Hottenstein *et al*., 1999).

Pak and Park's (2004) study of Korean IJVs indicated that multinationals that have prior experience in transferring knowledge to locals tend to minimise the extent of knowledge being transferred to their partners. The findings was explained by two facts: (1) foreign partners fear losing their competitive advantages on account of excessive sharing of knowledge, and (2) foreign partners' abilities to control the extent of knowledge sharing are accumulated through increasing local experience.

4.5.3 Characteristics of the Recipient

Previous researches have revealed that determinants, such as the recipient's collaborative experience, competences relatedness between the donor and the recipient, not-invented-here syndrome (Katz and Allen, 1982), etc, sway the outcomes of a transfer. Amongst the factors, the recipient's absorptive capacity (Cohen and Levinthal, 1990) has been the focus of research. These factors are presented as following.

4.5.3.1 Previous Collaborative Experience

The recipient's previous experience in collaboration with other organisational resource donors facilitates a transfer. For instance, Galbraith (1990) confirmed that the recipient with previous experience in technology transfer tends to minimise initial productivity loss (as opposed to normal productivity) in the transfer process.

Moreover, studying knowledge transfer in strategic alliances, Simonin (1999) compared two sampled groups of companies differentiated by high and low collaborative know-how (accumulated from previous experience). The findings suggested that collaborative experience is capable of mitigating the effects of complexity of knowledge, national cultural incompatibility, and organisational distance between the donor and the recipient, on knowledge transfer.

4.5.3.2 Competence Relatedness

Equivalent ability and understanding of knowledge specific to the transferred subject between the donor and the recipient is critical to the success of transfer. For instance, in Hansen and Løvås's (2004) study,

competencies relatedness facilitates technological competences transfer from the donor to the recipient.

4.5.3.3 Absorptive Capacity

Cohen and Levinthal (1990) initially defined absorptive capacity as a firm's ability to recognise the value of new external knowledge, assimilate it, and apply it to commercial end. This capacity is considered path dependent, and a function of pre-existing stock of knowledge related to the transferred subject.

In the early investigations into this issue, a firm's R&D intensity (R&D expenditure divided by sales, or other similar measures) was commonly used to evaluate its absorptive capacity. The high R&D investment resulting in incremental technological experiences was evidenced positively related to a firm's ability to assimilate and exploit external knowledge (Cohen and Levinthal, 1990; Tsai, 2000).

In a following survey of 122 transfers of organisational practices, Szulanski (1996) further confirmed that the recipient's lack of absorptive capacity is one major difficulty in knowledge transfer. Similarly, in a different research context, international joint venture, Lyles and Salk (1996) also recognised capacity to learn as a key indicator of resulting performance of a venture. They argued that the capacity is a function of (1) flexibility in organisational structure and approach to management, (2) creativity of employees, and (3) knowledge about performance of respective employee.

By reviewing previous representative empirical researches, Zahra and George (2002) re-framed "absorptive capacity" as four complementary dimensions: (1) *Acquisition*: a firm's ability to identify and acquire external knowledge that is valuable to its operations; (2) *Assimilation*: a firm's routines that allow it to interpret and understand the externally acquired knowledge; (3) *Transformation*: a firm's ability to develop and refine the routines that combine existing with the newly acquired and assimilated knowledge; and (3) *Exploitation*: a firm's routines that allow it to harvest and incorporate the acquired and transformed knowledge into operations. The first two termed "potential absorptive capacity" is the conventional focus of research, whilst the later two termed "realised absorptive capacity" is called for more empirical research.

As a response to Zahra and George's (2002) reconceptualization of "absorptive capacity", Simonin's (2004) investigation was focused on operationalisation side of absorptive capacity – magnitude and appropriateness of resource allocation to the organisational learning system – and coined the concept, "learning capacity (LC), which represents the firm's specific resources that can be deployed to drive the knowledge absorption process. He decomposed LC into three components: (1) resource-based LC: capacity derived from deployment of committed human and tangible assets; (2) incentive-based LC: capacity referring to explicit and unequivocal institutional routines that lead to a desired learning outcomes; and (3) cognitive-based LC: capacity capturing general attitudes toward learning.

In a survey of international strategic alliances associated with 174 MNCs, he demonstrated the impacts of LCs on knowledge transfer are contingent upon pre-exiting organisational and contextual factors. The positive effects of cognitive LC emerge, only when the partners of a strategic alliance don't consider each other as actual or future competitors and when the alliance is not based equity sharing. Amongst the three LCs, only incentive-based LC shows consistent effects cross analyses. Theses complex results suggest that "*the actual learning process is dynamic, and more intricate then often assumed or represented in the literature*".

From the previous brief review of the evolving notion of "absorptive capacity", it can be concluded that (1) Its applicability has been extended, from the original focus on a firm's innovation activity (e.g. Cohen and Levinthal, 1990), to a predictor applying to general organisational learning from the external environment (e.g. Simonin, 2004); (2) Its concept have been further expanded, from purely information assimilation (e.g. Cohen and Levinthal, 1990), to a cyclical view – from knowledge identification, comprehension, synthesis, to application (e.g. Zahra and George, 2002); and (3) Its constitution has been recognised as a richer set of components by incorporating other theoretical perspectives, such as agency theory, institutional theory, etc. (e.g. Simonin, 2004). There is no doubt that this construct will be continuously improving our understanding of organisational resource transfer via further theorisation and empirical substantiation.

4.5.3.4 Not-Invented-Here Syndrome

"NIH (Not-Invented-Here)" syndrome (Katz and Allen, 1982) refers to the recipient's reluctance that blockades learning and internalization of foreign knowledge. At least, the niduses of NIH syndrome include (1) ego-defence mechanism, which prevents a self from admitting other's superiority; and (2) power interplay within an organisation, which encourages a unit of an organisation to downplay the uniqueness and value of peer units' knowledge (Gupta and Govindarajan, 2000). This sentiment may develop as early as in the initiation stage – recognising the opportunities for transfer - through the transfer process (Szulanski, 2000) and therefore hinders a transfer. This syndrome was clearly evidenced in the Maritan and Brush's (2003) in-depth cases study on diffusion of flow manufacturing practices. They found that, as a consequence of complacency, experienced managers demonstrated low acceptance of the new practice.

4.5.4 Characteristics of Actors' Interaction

The interactions between actors (e.g. a donor and a recipient in a dyadic relationship) in the process of organisational resource transfer are predicated upon three aspects: (1) the relationship between actors, (2) the societal and organisational cultures that govern actors' behaviours, and (3) network effects. These factors have not drawn extensive attention until the recent decade. Apart from some theoretical propositions (e.g. Kedia and Bhagat, 1988; Tsai

and Ghoshal, 1998; Kostova, 1999; Bhagat et al. 2002; Inkpen and Tsang, 2005), extant empirical findings are fragmented and insufficient. The factors are further discussed below.

4.5.4.1 Relational Dimension

In an early study on the organisational practice transfer, Szulanski (1996) initially indicated that an arduous relationship between the donor and the recipient increases the stickiness of knowledge, particularly during the implementation and integration stages of transfer (Szulanski, 2000; refer to section 4.4.1 for differentiation of transfer stages). In the subsequent research, the importance of quality relationship (i.e. frequent and close relationship) between the actors involved with transfer has been consistently highlighted (e.g. Lyles and Salk, 1996; Pak and Park, 2004).

In organisational resource transfers, the connections between actors can be built upon both formal and informal relationships. On the one hand, predicated on a formulated organisational structure, formal relationship provides a conduit for exerting powers and politics within the organisation and therefore is influential in the organisational resource transfer. In a survey of 121 project team in a large American MNC, Hansen and Løvås (2004) confirmed that formal proximity (e.g. units of a MNC are affiliated to the same strategic business unit) prompts technological competences (in product development) transfer within a MNC, even if there is a lack of competence relatedness.

However, Hansen and Løvås (2004) found that informal relationship is a critical predictor for the success of resource transfer, a yet more influential one. Their findings suggest that informal relationship is a more potent integrator than formal proximity. The donor is more likely to transfer technological competence when prior relationship with the recipient exists. Similarly, Hottenstein *et al*. (1999) also indicated that informal networks amongst plant level personnel may be more effective than rigid strategy, policy, and formal executive intervention in terms of communicating and facilitating technology diffusion.

As for the interplay between knowledge components and relationships between actors, Pak and Park (2004) suggested that the knowledge with more tacit components (in the research, they compared knowledge in new product development within manufacturing processes) requires positive social relations between the donor and the recipient for achieving satisfactory knowledge transfer. Dhanaraj *et al*. (2004) reached similar conclusion from their survey findings that substantiated stronger positive impact of relational embeddedness between actors on tacit knowledge than on explicit knowledge. Wherein relational embeddedness is characterised by the strength of social ties, level of trust, and the extent to which common processes and values are shared.

In addition, by further scrutinising the constituents of relationship, mainly trust, identification, and reputation, researchers have revealed some in-depth

findings: Szulanski (2000) identified that the recipient's perceived reliability of the donor impacts on initiation, implementation, and ramp-up stages through the transfer process for organisational practices. Dhanaraj *et al*. (2004) found that mutual trust is more important to transferring tacit knowledge than to transferring explicit knowledge.

Kostova and Roth (2002) reported that trust between transfer partners significantly enhances the extent of institutionalisation of a practice, both the levels implementation (the expression of alignment of external and objective behaviour to a new practice) and internalisation (the state in which the recipient infuses a new practice with values). Moreover, strong identification fosters implementation of a new practice. The findings were explained by that trust and identification moderate the uncertainty concerning the efficiency of practices and encourage mimetic and normative, rather than coercive, adoption.

Adopting social information processing theory, Lucas also (2005) confirmed that the relationship based on trust and perceived reputation between the donor and the recipient affects information accessibility, information reliability, and eventually willingness to engage in the transfer.

4.5.4.2 Socio-cultural Dimension

In the study on strategic alliances, Simon (1999) found that cultural distance and organisational distance are two key antecedents of causal ambiguity of knowledge, and therefore impede knowledge transfer indirectly. Wherein cultural distance is defined as cultural asymmetry between two societies where the donor and the recipient are situated and organisational distance is defined as dissimilarity in business practices, institutional heritage, and organisational cultures between the donor and the recipient.

From an institutional perspective, Kostova and Roth (2002) evaluated societal/cultural distance by regulatory, normative, and cognitive institutions (Refer to section 5.2.3). They found that cognitive institution produces positive effect on the implementation part of recipient's adoption behaviour. The internalisation part is negatively affected by the regulatory institution, but positively impacted by cognitive and normative institutions.

4.5.4.3 Network Dimension

Within a MNC, its constituent units (e.g. subsidiaries) are scattered across geographical areas and located in different parts of the organisational structure. Those units construct a network in which actors interact with each other. The degree of interaction is often determined by physical and social aspects of inter-relationship and influential to overall performance of the MNC.

For instance, in Hansen and Løvås's (2004) study on 121 product development project teams of 41 subsidiaries in a MNC, spatial closeness

was evidence as a determinant of effective technological competence transfer within the company network.

From the perspective of social aspect, Tsai (2001) confirmed that the centrality of a unit, defined by total number of units from which a focal unit has received knowledge, within a MNC network endows the unit with distinct accessibility to external knowledge.

Moreover, studying the impact of ties strength (i.e. the quality of relationship) on knowledge sharing, Hansen (1999) distinguished knowledge search and knowledge transfer from the construct of knowledge sharing. He found that strong and weak inter-init ties induce respective strength and weakness in facilitating search and transfer of useful knowledge (as shown in figure 4-6 below). When the knowledge is more complex, strong ties aids in the transfer more effectively, whilst then the knowledge is less complex, weak ties is more efficient.

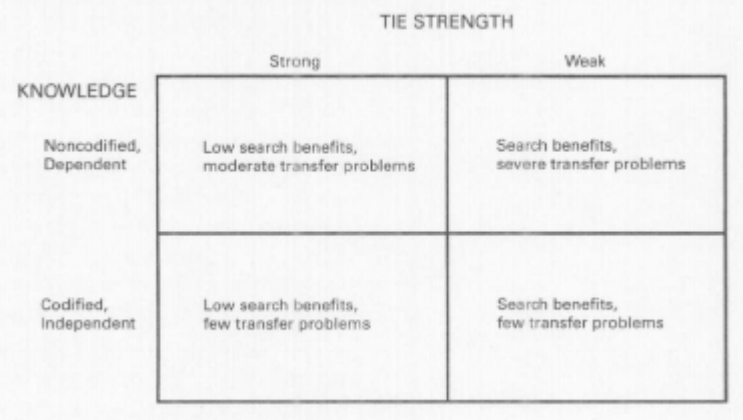


Figure 4-6: The Strength and Weakness of Knowledge Search and Transfer Associated with Ties Strength and Knowledge Types (Source: Hansen, 1999)

4.5.5 Managerial Mechanisms

As pointed out by researchers, the transfer of organisational resource between the donor and the recipient is dyadic, iterative, exchange processes (Szulanski, 1996; Malik, 2002) that lead to increment or change in the recipient's knowledge reservoirs (Argote and Ingram, 2000). Moreover, the processes are embedded in a multi-faceted context that is involved with social, organisational, and relational spheres (Kostova, 1999). For enabling the increment or change in the recipient's knowledge stock, organisational mechanisms render either vehicles or stimuli for transmitting resources in the socially constructed context of transfer. Therefore, how organisational mechanisms impact on the process of knowledge transfer catches the attention of academics.

Researchers tend to adopt communication theory (e.g. Gupta and Govindarajan, 2000), social capital theory (e.g. Inkpen and Tsang, 2005), socialisation theory (e.g. Lyles and Salk, 1996), and agency theory (e.g.

Björkman *et al*., 2004) to examine the effectiveness of different organisational mechanisms. As a summary, this subsection enumerates findings from several empirical studies. For the ease of discussion, different managerial mechanisms for the transfer of organisational resource are classified into "formal integrative mechanisms", "socialisation mechanisms", "control and incentive mechanisms", and "transfer project-specific mechanisms" herein.

4.5.5.1: Formal Integrative Mechanisms

Formal integrative mechanisms are built-in components of organisational structure (e.g. an organisational unit, a job position, or a regular meeting). These mechanisms tend to be permanent, formalised, and routinised. This type of mechanisms facilitates intra-organisational information exchange by means of high-density and wide-spread communicative channels (Daft and Lengel, 1986), and therefore, expedites knowledge flow. In field studies, researchers have evidenced positive impacts of integrative mechanisms on organisational resource transfer:

Hottenstein *et al*. (1999) found that establishment of an intra-firm technology centre facilitates technology diffusion projects significantly within a MNC.

In a survey of 374 MNCs, Gupta and Govindarajan (2000) manifested that formal integrative mechanisms (liaison personnel, task forces, or permanent committees) significantly facilitate knowledge flows between peer subsidiaries as well as between subsidiaries and the headquarters.

Björkman *et al*. (2004) found that the more the subsidiary managers interact with managers from other MNC units in cross-unit committees and task forces, the more the knowledge is transferred to other parts of the company.

4.5.5.2 Socialisation Mechanisms

Socialisation mechanisms are associated with the process of team-building cross organisational boundaries (both internal and external), which enhances the convergence of cognitive perception, interpersonal familiarity, and personal affinity (Van Maanen and Schein, 1979). The strengthened personal ties enrich the communication channels (Daft and Lengel, 1986) and hence facilitate the organisational resource transfer. Previous field studies also support this assertion:

Gupta and Govindarajan (2000) found that involvement of a subsidiary's president with lateral (between peer subsidiaries) socialisation activities (e.g. cross-subsidiary executive development programmes or job transfers to peer units) promotes knowledge inflow and outflow of the subsidiary. Similarly, the greater involvement of a president with vertical (between subsidiaries and the headquarters) socialisation activities (e.g. job transfers to the headquarters or

appointment of mentors at the headquarters), the more knowledge inflows from the headquarters occurs.

Similarly, also in the context of MNCs, site visits, joint training programmes, and regular workshops have positively impacts on knowledge transfer across subsidiaries (Hottenstein *et al*., 1999; Björkman *et al*., 2004). Likewise, in the context of international acquisition, frequency of communication (face-to-face or via other media), meetings, and visits between the acquired and the acquiring facilitates knowledge flow in both directions (Bresman *et al*., 1999).

4.5.5.3: Control and Incentive Mechanisms

Development of control and incentive mechanisms are predominantly predicated on agency theorist's arguments (refers to the review by Eisenhardt, 1989). Application of this type of mechanisms by MNCs to curb subsidiaries' behaviours and shape congruent goals is asserted to be efficient in transferring organisational resource.

For instance, in a survey of 134 Finnish and Chinese subsidiaries of foreign MNCs, Björkman *et al*. (2004) found that a subsidiary's perceived importance, as a result of performance criteria set by headquarters, enhances knowledge transfer between units within a MNC.

Likewise, according to Gupta and Govindarajan's (2000) findings, knowledge inflows from the headquarters increase, when subsidiary presidents are remunerated under more subsidiary-focus, rather than network-focused, incentives. Moreover, when given less decision-making autonomy, the subsidiaries receive more knowledge from the headquarters.

Studying HRM (Human Resource Management) practices' impacts on knowledge transfer within a MNC, Minbaeva *et al*. (2003) surveyed 141 foreign-owned subsidiaries in Finland, Russia, and USA. They suggested that performance assessment and performance-based remuneration enhance employees' abilities and motivation respectively. The improved abilities and motivation contributes to a firm's absorptive capacity of knowledge.

4.5.5.4 Transfer Project-Specific Mechanisms

The transfer of organisational resource frequently takes the form of projects. Investigating this context, researchers also suggested some organisational mechanisms for enabling the success of transfer projects:

The first facilitating mechanism is a transition team consisting of members from both the donor and the recipient. Galbraith (1990) found that relocation of an engineering team with the transferred technology reduces the time required for recovery back to normal productivity. In the case study, Malik (2002) explained that transfer of staff builds mutual trust as a consequence of constant socialisation involving with two-way face-to-face dialogue. Moreover,

the transfer team should be dedicated and multifunctional for capturing more comprehensive and thorough perspectives (Maritan and Brush, 2003).

Secondly, appropriate training programmes are considered indispensable. Both Lyles and Salk's (1996) study on IJVs and Malik's (2002) study on a MNC highlighted that pre-transfer training programmes are critical to knowledge transfer, as these assist in defining knowledge requirement and transmitting desired knowledge.

Thirdly, in the context of diffusion of organisational resources (not dyadic transfer), a transfer template (e.g. a pilot line) is recommended for fathoming unpredictable problems before further diffusion. Following the building of a template, diffusion of organisational resources can be benefited from further deploying the experienced personnel from the template to other recipient sites (Maritan and Brush, 2003; Lapré and Van Wassenhove, 2003).

Furthermore, as a general guideline for transfer project, in the study on knowledge acquisition from the foreign partner in an IJV, Lyles and Salk (1996) suggested that, unequivocal specification of goals by the foreign partner in early stage and explicit division of contribution for knowledge transfer promote the results of knowledge acquisition.

Apart from the four types of managerial mechanisms introduced in this subsection, Chai *et al*.'s (2003) construct and findings provides another meaningful perspective for understanding the natures and functions of distinct mechanisms for managing organisational resource transfer:

Deriving from cases study on 11 manufacturing companies headquartered in the US and the UK, Chai *et al*. (2003) compared different knowledge sharing mechanisms adopted in the cases in terms of **reach** (defined as "*the number of recipients that a mechanism communicate with at one time and to what degree the mechanism can overcome geographical and temporal barriers*") and **richness** (defined as "*the amount and varieties of information that a mechanism can transfer at one time*"). By taking two dimensions: four types of knowledge (a typology supported by Doz and Santos, 1997, as previously explained in section 4.2.2) and stages of knowledge sharing (awareness-raising and formal transferring) into account, they proposed a framework for selecting mechanisms under different circumstances (as shown in table 4-7 below).

Knowledge sharing mechanism selection framework

Types of Knowledge	*Knowledge Sharing Process*	
	Awareness	*Transfer*
Explicit (e.g. FMEA)	Boundary spanners Forums (meetings/internal conferences) Manufacturing audits International teams Periodicals	Reports, periodicals
Endemic (e.g. specific set-up procedures)		Best practice guidelines, periodicals, benchmarking visits, forums, international teams
Experiential (e.g. problem-solving skills)		Expatriation (expert to recipient site)
Existential (e.g. specific machine operating skills)		Overseas training (trainee to expert site)

Table 4-7: Chai *et al*.'s Framework for Selecting Knowledge Sharing Mechanisms (Source: Chai *et al*., 2003)

In their view, high "reach" mechanisms are suitable for "awareness-raising" because of their penetrating capacity across geographical, temporal, and functional barriers, whilst high "richness" mechanisms fit "formal transferring" on account of their extensive bandwidths. Moreover, given various degrees of embeddedness and tacitness, different mechanisms can be applied to transferring the four types of knowledge respectively. Although, their construct is by no means comprehensive and flawless, it offers insights that different mechanisms possess different efficacy at different stages of sharing different types of knowledge.

4.5.6 Characteristics of the Transfer Channels

Previous investigations into the characteristics of transfer channels were mainly focused on the impact of equity share in the context of joint venture. Commonly equity share was treated as a control variable in a regression model. By comparing samples distinguished by different composition of equity, some intriguing findings were concluded.

4.5.6.1 Equity Share

In general, previous research findings seem to suggest that the donor with higher equity share (at least 50% sharing) is more willing to disseminate its knowledge and achieve a better knowledge transfer outcomes.

In an survey of 60 companies in the American telecommunication industry, Williams (2007) evidenced that firms tend to invest more actively in a specific knowledge transfer (both replication and adaptation) when the donor owns higher equity share.

In the research context of Hungarian IJVs, Lyles and Salk's (1996) findings suggested that shared management joint ventures (50/50 sharing of equity) reach the highest level of knowledge acquisition from the foreign partners.

However, the shared management is more vulnerable to cultural misunderstanding and lack of written goals. Moreover, they identified that less knowledge acquisition occurs when the domestic parent holds dominant equity position.

Moreover, other findings also suggested that different equity structures require distinct managerial mechanisms on account of their differences in institutional environment.

Researching on knowledge transfer in strategic alliances involved with 147 American MNCs, Simonin (2004) examined the effects of different factors on equity-based and non-equity-based groups of samples. He found that incentive-based learning capacity facilitates knowledge transfer in equity-based alliances, whilst cognitive-based learning capacity takes effect in non-equity-based alliances. Moreover, partner protectiveness impacts on non-equity-based alliances, but not on equity-based alliances.

4.5.7 Contextual Characteristics

Contextual factors are associated with either the external business environment or the internal organisational context. The latter echoes to Szulanski's (1996) early arguments concerning the importance of organisational context in the transfer. Four contextual factors are explained as following.

4.5.7.1 Perceived Competitiveness

When the competitiveness from either the marketplace or the peer units is perceived, the recipient is more likely to react to the pressure by actively adopting a new practice.

Zander and Kogut (1995) found that the perceived threat of market pre-emption, i.e. the risk of losing technological edge to competitors, expedites the speed of organisational capability transfer.

In their case study on diffusion of flow manufacturing practice to multiple plants, Maritan and Brush (2003) observed that perceived pressure from internal competition (amongst plants/subsidiaries) within the same company prompts a recipient's willingness to embrace the change (adopting a new practice).

4.5.7.2 Organisational Culture

An organisation whose culture promotes autonomy offers a favourable platform for knowledge transfer. Since autonomy accompanies non-bureaucratic and decentralised structure of information flow and decision-making, employees interact freely and frequently for making joint decisions. As a consequence, the surroundings are amiable to knowledge transfer,

particularly advantageous to transferring tacit knowledge. The argument has also been substantiated in different researches (Foss and Pedersen, 2002; Lapré and Van Wassenhove, 2003; Molina et al., 2007).

4.5.7.3 HRM (Human Resource Management) Practices

Investigating the relationship between a firm's absorptive capacity and HRM practices, Minbaeva *et al*. (2003) found that absorptive capacity is affected by employees' abilities and motivation. Training programmes and performance assessment system aid in building employees' abilities and therefore facilitate knowledge transfer indirectly. Similar result was also concluded by Zhao *et al*. (2005) in their cases study on four IJVs.

4.5.7.4 OM (Operations Management) Practices

OM (Operations Management) practices refer to routinised activities associated with the manufacturing function of a firm. Common OM practices include concurrent engineering, total quality management, lean production, design for manufacturing, etc.

Galbraith (1990) compared manufacturing technology replications (i.e. to maintain operations at the both donor and recipient sites) and relocations (i.e. to suspend operations at the donor site and transfer to the recipient). He found that replications outperform relocations on three indicators of successful transfer (percentage of productivity loss, months to recover, and probability of failure). The result is explained by a shared learning experience associated with co-production.

Hottenstein *et al*. (1999) found that implementation of concurrent engineering and "design for manufacturing" encourage free exchange of information and help in eliminating functional barriers. As a consequence, these practices indirectly facilitate technology diffusion within a company.

Examining the relationship between QM (Quality Management) practices and knowledge transfer, Molina *et al*. (2007) concluded that implementation of process control technique, one of major QM practices, promotes internal knowledge transfer across subsidiaries. They attributed the findings to three reasons: (1) The technique aids in codification of process information as well as in identification of sources of information; (2) Popularity of a unified technique provides a common language as the basis of cross organisational communication; and (3) Data collected via the process technique is perceived as reliable in a statistical sense and as trustworthy by the knowledge recipient.

4.6 A Key Debate – Replication v.s. Adaptation

In the international management literature, it is widely agreed that adaptation of organisational resource to a local subsidiary environment is

necessary to long-term survival of the subsidiary. However, the timing and the degree of adaptation are still controversial (Prahalad and Doz, 1987; Bartlett and Ghoshal, 1989). Following this line of discussion, there has been a debate over the "most effective" general strategy for transferring organisational resource – either "exact replication" or "presumptive adaptation[7]". Sharing the common theoretical foundation – knowledge-based view of the firm, but accentuating distinct attributes of knowledge with the further supports of different theoretical perspectives, scholars from the two streams of research favour either the general strategies.

One stream, the proponents of "exact replication", is founded on the causal ambiguity nature of knowledge (Lippman and Rumelt, 1982; Reed and DeFillippi, 1990) and *ex ante* uncertainty with respect to the relevant environment (Westney, 1987). They argued that "pre-emptive adaptation" jeopardises the odds of successful transfer as a consequence of (1) breaking the causal links amongst components of knowledge and (2) diminishing the diagnostic value of the original practice (Winter and Szulanski, 2001; Jensen and Szulanski, 2004). These arguments are also supported by the reported empirical findings (e.g. Jensen and Szulanski, 2004; Szulanski and Jensen, 2006). Hence, proponents of "exact replication" suggest that adaptation should be implemented *ex post* and gradually with careful design, ideally involving only a single change at a time (Szulanski and Jensen, 2006).

Another stream, the proponents of "presumptive adaptation", is mainly buttressed by the view on context-dependent nature of knowledge (Kogut and Zander, 1993; Spender, 1996) and institutional theory (Powell and DiMaggio, 1991): On the one hand, organisational knowledge is embedded in a web linking different organisational elements. Accordingly, the success of transfer should be defined as compatibility of knowledge with the new context. Adaptation is the key to fitness of context-dependent knowledge (Argote and Ingram, 2000). On the other hand, the transfer of knowledge is recognised as being involved with a multi-faceted context. Modification of knowledge before transfer to accommodate the recipient environment increases legitimacy in normative and cognitive aspects of institutions. Therefore, adaptation facilitates institutionalisation – both implementation and internalisation – of the transferred knowledge (Kostova, 1999; Kostova and Roth, 2002).

Nevertheless, Williams' (2007) empirical findings shed some light on how these two streams can be synthesized. Studying 60 companies in the American telecommunication industry, he demonstrated that, rather than mutually exclusive strategies, replication and adaptation are different constructs, which both facilitate knowledge transfer respectively and can be applied jointly. Firms implement a degree of replication according to the reward for the transfer of ambiguous knowledge, and then implement a degree of adaptation to achieve integration contingent upon the interdependence with the context. Moreover, he found that the degree of adaptation increases with the increment of understanding of the transferred knowledge, which is gained through the length of transfer partnership, rather than from the knowledge donor's previous experience in transfers and in the

[7] "Presumptive adaptation" is the term coined by Szulanski and Jensen (2006).

recipient countries. Although Williams also admitted the limit to the generalisability of the results, his empirically tested findings offer a new direction for further research.

4.7 Conclusion and Knowledge Gaps

The reported qualitative findings in the preceding sections were ascertained through a thoughtful review of the 46 selected articles. The reported major theoretical lenses aid in further research by offering the foundation for theorisation of this research area (via an inductive approach) and the reference for verifying existing theories (via a deductive approach).

Moreover, the current research findings on definitions of the success of a transfer and analytical frameworks for the transfer were also reported in this chapter. The results suggest that this research area still lacks a set of generally accepted, comprehensive and completely operationalisable evaluation criteria for a transfer. There is also no complete and analytical framework for the transfer. The fact highlights two major knowledge gaps worthy of further research.

As for the potential knowledge gaps with regard to the factors influencing a transfer, appendix I tabularises a set of major findings. The top horizontal row of the table lists four most researched transfer contexts (i.e. within MNC, international strategic alliance, international joint venture, and international merger and acquisition). The leftest vertical row enumerates factors influencing organisational resource transfer. 73 factors identified from the 36 reviewed empirical studies are classified into 7 categories as in section 4.5. All the findings in the 36 works (both supported and rejected factors posited to be influential to a transfer) were recorded in the corresponding columns according to the research contexts and categorised factors.

From appendix I, it can be found that most factors have been tested in the “within MNC” context and then in the “international joint venture (IJV)” context. However, only a few factors have been tested in the “international merger and acquisition (IM&A)” context. Moreover, in terms of factors under investigation, “characteristics of the donor” and “characteristics of the transfer channel” were least researched previously. By considering both the research context and the factor, the other major gaps of knowledge are identified as (1) all 7 factor categories in “IM&A”, and (2) “managerial mechanisms” and “contextual characteristics” in “international strategic alliance”. Meanwhile, appendix I also is able to pinpoint more minor research gaps by identifying blank columns on the sheet.

Chapter Five: Conclusion

5.1 Limitations

Limitations to the research findings derive inevitably from potential biases through the SLR procedure. The biases may originate from the following three aspects:

Motivational Biases

One source of biases might come from the motivation of researcher for conducting current research. However, as a bursary student, I am doing this review for pure academic and factual purpose. Besides, there is no connection between my role in this review and interest of any other commercial party. Accordingly, the concern of conflict of interests is trivial.

Research Design Biases

Another source of biases might result from the design of search keywords for locating data. In the research procedure, enormous efforts have been made to refine the search keywords by continuously consulting panel members and by conducting pilot tests for designed keywords. However, admittedly it is not feasible to identify all the relevant articles in the selected databases via the current set of key words, because researchers from different disciplines and theoretical perspectives may use distinct terminology to entitle and abstract their works.

Operationalisation Biases

Finally, in the process of research implementation, biases unavoidably came from my limited knowledge of and insufficient experience in both academic research and industrial practices. To a certain extent, the fact constrained my ability to critically analyse the extracted literature.

By carefully documenting the process of literature searching and key information extracted from the selected literature, the progresses of review were periodically examined and traced by panel members, who have offered comprehensive and in-depth insights. Therefore, potential and emergent pitfalls were better tackled by well-informed decisions and immediate measures.

Another operational constraint is related to sufficiency of time for this research. As part of the MRes course and requirements of MRes degree, this thesis is required to finish by the specified hand-in date. As a consequence, extensive scrutiny of all found literature was not attainable. A further review of the “review results” is necessary afterwards.

5.2 Appraisal of SLR & Learning Points

In response to the call for an evidence-based research discipline, Systematic Literature Review (SLR) approach is capable of enhancing rigorousness and validity of any management research by rendering a transparent and verifiable literature review process. However, since the introduction of SLR to the management research in 2001 (Tranfield *et al*., 2003), it is still in infancy and far from a mature approach at this stage. For establishing a systemised and consistent SLR approach, further experimental operationalisation should be made.

From the operational experience in the review, some personal observations are worthy of reporting in this thesis:

Firstly, to an extent, derivation of search keywords is relied on heuristic, i.e. the researcher's experience and observation. In the previous SLR theses, there seems no traceable path concerning how the researchers chose the employed keywords or whether the keywords were appropriate. For coping with this issue, this thesis adopted a pre-defined logic (refer to section 2.4.1) to derive search keywords, with the aim of building a traceable path. Nevertheless it is also admitted that the derivation method employed is not flawless. The finalisation of search keywords actually went through several trial and error processes by using a set of testers (some key articles identified before this review). Even by doing so, it is still not able to assure that the search keywords are capable of ascertaining all key articles.

Secondly, commonly, previous theses used RefWork (or other software/ applications) as a proxy for the documentation of selected and reviewed literature. Those applications are convenient in terms of incorporating electronic bibliography and document format into a personal database. However, they may not facilitate further quantitative or qualitative analyses. Hence, in this thesis, two special excel worksheets for documenting theoretical and empirical literature respectively were devised with the intention of capturing required information (refer to section 3.4.3). It is found that using a customised documentation format can significantly aid in further analytical works.

5.3 A Concluding Note

As specified in the beginning of thesis (refer to section 2.3.1), this Systematic Literature Review were intended to identify the theoretical foundation of and the knowledge gaps in the research area of interest – **cross-border transfer of organisational resource within a MNC in the context of manufacturing**. Accordingly, five research questions were defined before the review (refer to section 2.3.3).

For the review question one, previous theoretical lenses adopted by researchers were reported in section 4.2.

For the review question two, section 4.3 reported definitions of the success of a transfer put forth by preceding researchers.

For the review question three, proposed analytical frameworks for the transfer were reported in section 4.4.

For the review question four, section 4.5 reported factors influencing a transfer and categorised the factors into seven congruous groups.

For the review question five, knowledge gaps in this research area were reported in section 3.6 and 4.7 through analyses.

From the quantitative and qualitative findings through this review, it can be concluded that the research area is considered valuable in terms of enhancing business performance and has been drawing increasing attention by scholars from different disciplines. However, there are extensive knowledge gaps waiting for further exploration and confirmation. Following the research findings of this thesis, further literature review will be conducted for identifying and refining the research question(s) for my PhD learning.

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APPENDIX I

APPENDIX II

Cross Analysis - Factors v.s. Research Contexts

Classified Factors that Influence Organisational Resource Transfers	Research Context: Within MNC/Across Sites		Int. Strategic Alliance		Int. Joint Venture	
	Supported	Rejected	Supported	Rejected	Supported	Rejected
1. Characteristics of Transferred Subject						
# Maturity	Galbraith (1990)					
# Four Dimensions of Knowledge						
## Complexity	Galbraith (1990)	Zander and Kogut (1995)	Simonin (1999)			
## Codifiability/Tacitness	Zander and Kogut (1995)				Dhanaraj et al. (2004); Pak and Park (2004)	
### Quality of Knowledge		Galbraith (1990)			Hong et al. (2006)	
## Specificity				Simonin (1999)	Pak and Park (2004)	
## Teachability	Zander and Kogut (1995)					
# Dependence on Dispersed Knowledge Possessors*		Zander and Kogut (1995)				
# Causal Ambiguity	Szulanski (1996); Szulanski (2000); Maritan and Brush (2003); Jesen and Szulanski (2004)		Simonin (1999); Simonin (2004)			
# Perceived Value	Galbraith (1990); Hottenstein et al. (1999); Malik (2002)					
## Perceived Usefulness	Venkatesh and Davis (2000)	Szulanski (1996)			Pak and Park (2004)	
## Perceived Ease of Use	Venkatesh and Davis (2000)					
2. Characteristics of the Donor						
# Previous Collaborative Experience	Hottenstein et al. (1999)		Simonin (1999)		Pak and Park (2004)	
# Previous Technological Experience*		Phene et al. (2005)				
# Reluctant to Share Vested Benefits	Malik (2002)					
3. Characteristics of the Recipient						
# Previous Collaborative Experience	Galbraith (1990)		Simonin (1999)			
# Competence Relatedness	Hansen and Lovas (2004); Phene et al. (2005)					
# Absorptive Capacity	Szulanski (1996); Tsai (2001); Szulanski (2000); Maritan and Brush (2003)		Simonin (2004) [partially confirmed]		Lyles and Salk (1996); Pak and Park (2004)	
## Previous Technological Experience	Malik (2002); Phene et al. (2005)		Simonin (1999)			
## Retentive Capacity*		Szulanski (1996)				
## Learning Intent			Simonin (2004)			
# Not-Invented-Here Syndrome	Malik (2002); Maritan and Brush (2003)					
# Concern about Job Security	Malik (2002)					
4. Characteristics of Dyadic Relationship						
# Relational Dimension						
## Quality of Relationship	Szulanski (1996); Szulanski (2000); Foss and Pedersen (2002)	Phene et al. (2005)			Lyles and Salk (1996);Dhanaraj et al. (2004); Pak and Park (2004)	
## Duration of Relationship			Simonin (1999)		Dhanaraj et al. (2004)	
## Formal Organisational Structure						
## Intra-firm Trade within MNCs	Foss and Pedersen (2002)					
## Informal Relationship	Hottenstein et al. (1999); Hansen and Lovas (2004)					
## Trust	Szulanski (2000); Malik (2002); Kostova and Roth (2002)	Szulanski (1996)			Dhanaraj et al. (2004); Inkpen (2005)	
## Reputation	Lucas (2005)					
## Identification with the Donor	Kostova and Roth (2002)					
## Partner Protectiveness			Simonin (2004)	Simonin (1999)		
# Socio-cultural Dimension						
## Societal Culture Distance	Kostova and Roth (2002)		Simonin (1999)			Lyles and Salk (1996)
## Language	Malik (2002)					
## Organisational Distance			Simonin (1999)			
# Network Dimension						

## Physical Distance between the Donor & the Recipient	Hansen and Lovas (2004)	Galbraith (1990)				
## Social Network Position	Tsai (2001)					
## Social Network Ties	Hansen (1999)					
5. Managerial Mechanisms						
# Top Management Support	Lapre and Van Wassenhove (2003)				Inkpen (2005)	
# Formal Integrative Mechanisms	Gupta and Govindarajan (2000); Chai et al. (2003); Bjorkman et al. (2004)				Zhao et al. (2005)	
## Intrafirm Technology Centre	Hottenstein et al. (1999)					
## Transfer Champion (Boundary Spanner)*		Hottenstein et al. (1999)				
## Number of Expatriate Managers*		Bjorkman et al. (2004)				
# Socialisation Mechanisms	Gupta and Govindarajan (2000); Chai et al. (2003); Bjorkman et al. (2004); Harzing and Noorderhaven (2006)					
## Regular Workshop	Hottenstein et al. (1999)					
# Control and Incentive Mechanisms	Gupta and Govindarajan (2000); Bjorkman et al. (2004)					
## Criteria for Performance Measurement	Bjorkman et al. (2004)					
## Performance-based Compensation (HRM Practice)	Minbaeva et al. (2003)					
## Merit-based Promotion (HRM Practice)*		Minbaeva et al. (2003)				
# Transfer Project-Specific Mechanisms	Chai et al. (2003)					
## Transition Team	Galbraith (1990); Malik (2002); Maritan and Brush (2003)				Inkpen (2005)	
## Training Programme (Pre-transfer)	Malik (2002)	Galbraith (1990)			Lyles and Salk (1996)	
## Building of a Transfer Template (Model Plant, Production Line, etc.)	Maritan and Brush (2003); Lapre and Van Wassenhove (2003)					
## Articulated Strategies, Goals & Explicit Division of Responsibility		Hottenstein et al. (1999)			Lyles and Salk (1996)	
# Replication v.s. Adaptation	Jensen and Szulanski (2004); Szulanski and Jensen (2006); Williams (2007)				Hong et al. (2006)	
6. Characteristics of the Transfer Channel						
# Equity Share	Williams (2007)		Simonin (2004)		Lyles and Salk (1996)	Pak and Park (2004)
7. Contextual Characteristics						
# Perceived Competitiveness						
## Perceived Treat of Market Pre-emption	Zander and Kogut (1995); Phene et al. (2005)					
## Perceived Pressure from Internal Competition within the Company network	Maritan and Brush (2003)					
# Organisational Culture						
## Favourable organisational context*		Szulanski (1996)				
## Degree of Autonomy within an Organisation	Foss and Pedersen (2002); Lapre and Van Wassenhove (2003); Harzing and Noorderhaven (2006); Molina et al. (2007)					
## Popularity of Team Working*		Molina et al. (2007)				
# HRM (Human Resource Management) Practices						
## Training Programme (HRM Practice)	Minbaeva et al. (2003)				Zhao et al. (2005)	
## Performance Assessment System (HRM Practice)	Minbaeva et al. (2003)					
# OM (Operations Management) Practices						
## Simultaneous Operations at the both Donor & Recipient Sites	Galbraith (1990)					
## Concurrent Engineering & Simultaneous R&D	Hottenstein et al. (1999)					

## Implementation of Process Control Techniques (QM)	Molina et al. (2007)					
# Rigidity of Intra-firm Information Flow					Zhao et al. (2005)	

*** The asterisked propositions are those not being validated by at least one empirical research.**

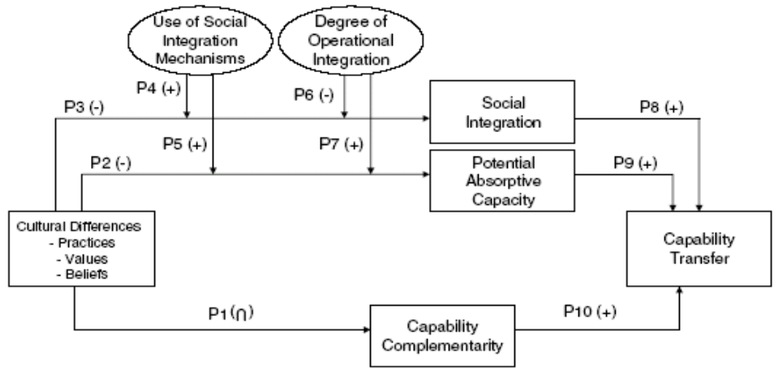
Int. Merger & Acquisition	
Supported	Rejected
Bresman et al. (1999)	

Bresman et al. (1999)	

Literature Summary for Theoretical Research

	Cit	Year	Author(s)	Title	Published in (Journal)	Research Question(s)/Aim(s)	Research Unit(s) & Context				
							Mode	Transferred Subject(s)	Channel	Point of View	Level of Analysis
1		2007	Björkman,Ingmar; Stahl,Günter K.; Vaara,Eero	Cultural differences and capability transfer in cross-border acquisitions: the mediating roles of capability complementarity, absorptive capacity, and social integration.	Journal of International Business Studies	Presents an integrative model of the impact of cultural differences on capability transfer in cross-border acquisitions.	Intra-firm	Organisational Capabilities	International Acquisition	Both	Firm level
2		2006	Lucas,Leyland M.	The role of culture on knowledge transfer: the case of the multinational corporation	The Learning Organization	Examine culture's role in knowledge transfer within multinational corporations (MNCs).	Intra-firm	Knowledge	within MNC	Both	Subsidiaries of a MNC

Perspective (Theoretical Lens)	Propositions	Link	Remark
Cultural Study, Social Capital Theory.	(1) There is a curvilinear relationship between cultural differences and capability complementarity, such that moderately large cultural differences will be associated with higher levels of capability complementarity between the acquiring firm and the acquired firm. (2) Greater cultural differences between the acquiring firm and the acquired firm will be associated with lower levels of potential absorptive capacity. (3) Greater cultural differences between the acquiring firm and the acquired firm will be associated with lower levels of social integration. (4) Use of social integration mechanisms will moderate the relationship between cultural differences and social integration, such that extensive use of social integration mechanisms will reduce the negative effects of cultural differences on social integration. (5) Use of social integration mechanisms will moderate the relationship between cultural differences and potential absorptive capacity, such that extensive use of social integration mechanisms will reduce the negative effects of cultural differences on potential absorptive capacity. (6) Degree of operational integration will moderate the relationship between cultural differences and social integration, such that a high degree of operational integration will increase the negative effects of cultural differences on social integration. (7) Degree of operational integration will moderate the relationship between cultural differences and potential absorptive capacity, such that a high degree of operational integration will reduce the negative effects of cultural differences on potential absorptive capacity. (8) High levels of social integration will be associated with higher levels of capability transfer between the acquiring and the acquired firm. (9) High levels of potential absorptive capacity will be associated with higher levels of capability transfer between the acquiring and the acquired firm. (10) High levels of interunit capability complementarity will be associated with higher levels of capability transfer between the acquiring and the acquired firm.	http://proquest.umi.com/pqdweb?index=1&did=1298047601&SrchMode=3&sid=1&Fmt=2&VInst=PROD&VType=PQD&RQT=309&VName=PQD&TS=1187015264	
Cultural Study. Borrowing Hofstede's cultural dimensions of power distance, individualism/collectivism, uncertainty avoidance, and masculinity/femininity.	(1) The location of subsidiaries along the "individualism/collectivism" dimension of the cultural index will influence the likelihood of successful inter-subsidiary knowledge transfer. (2) The location of subsidiaries along the "power distance" dimension of the cultural index will influence the likelihood of successful inter-subsidiary knowledge transfer. (3) The location of subsidiaries along the "uncertainty avoidance" dimension will have a significant effect on the likelihood of successful inter-subsidiary knowledge transfer. (4) The location of subsidiaries along the "masculinity/femininity" dimension of the cultural index will influence the likelihood of successful inter-subsidiary knowledge transfer.	http://proquest.umi.com/pqdweb?did=1048982091&Fmt=7&clientId=65345&RQT=309&VName=PQD	Provider Acquirer Individualistic / Individualistic: Greater success/low resistance barriers Individualistic / Collectivist: Limited success; Significant home office involvement Collectivist / Individualistic: Limited success; Significant home office involvement Collectivist / Collectivist: Greater success/low resistance barriers

Appendix	Rating
 Factors influencing capability transfer in cross-border acquisitions.	3
Provider **Individualistic** / **Collectivist** Greater success/low resistance barriers | Limited success; Significant home office involvement Limited success; Significant home office involvement | Greater success/low resistance barriers **Provider** **Acquirer** — **Large** / **Small** Greater success/low resistance barriers | Limited success; Significant home office involvement Greater success/low resistance barriers | Limited success; Significant home office involvement **Small** **Large** **Degree o** **Provider** **Acquirer** — **Strong** / **Weak** Limited success/high resistance barriers | Limited success; Significant home office involvement Greater success/low resistance barriers | Limited success; Significant home office involvement **Weak** **Strong** **Level of Uncertainty Avoidance** **Provider** **Masculinity** / **Femininity** **Acquirer** — **Masculinity** / **Femininity** Greater success/low resistance barriers | Greater success/low resistance barriers Limited success; Significant home office involvement | Greater success/low resistance barriers **Degree of Femininity/masculinity**	2

	Citation	Year	Author(s)	Title	Published in (Journal)	Research Question(s)/Aim(s)	Research Unit(s) & Context				
							Mode	Transferred Subject(s)	Channel	Point of View	Level of Analysis
3		2005	Inkpen,Andrew C.; Tsang,Eric W K.	Social Capital, Networks, and Knowledge Transfer	The Academy of Management Review	(1) Examine how the social capital dimensions of networks affect an organization's ability to acquire new knowledge from the network and facilitate the transfer of knowledge among network members. (2) Integrate the diverse literature on networks and knowledge transfer. (3) Help advance the study of social capital beyond that of an umbrella concept to a useful and valid concept with the potential for understanding network processes.	Both	Knowledge	Not Specified	Both	Organisation level
4	128	2002	Zahra, Shaker A, George, Gerard	Absorptive capacity: A review, reconceptualization, and extension	The Academy of Management Review	Propose a reconceptualization of ACAP as a dynamic capability pertaining to knowledge creation and utilization that enhances a firm's ability to gain and sustain a competitive advantage.	Both	Knowledge	Not Specified	Both	Organisation level

Social Capital Theory, Network Theory, and Knowledge-based View.	**Conditions Facilitating Knowledge Transfer** **Social Capital Dimensions** / **Intracorporate Network** / **Strategic Alliance** / **Industrial District** Structural Network ties — Personnel transfer between network members — Strong ties through repeated exchanges — Proximity to other members Network configuration — Decentralization of authority by headquarters — Multiple knowledge connections between partners — Weak ties and boundary spanners to maintain relationships with various cliques Network stability — Low personnel turnover organization wide — Noncompetitive approach to knowledge transfer — Stable personal relationships Cognitive Shared goals — Shared vision and collective goals — Goal clarity — Interaction logic derived from cooperation Shared culture — Accommodation for local or national cultures — Cultural diversity — Norms and rules to govern informal knowledge trading Relational: Trust — Clear and transparent reward criteria to reduce mistrust among network members — Shadow of the future — Commercial transactions embedded in social ties	http://proquest.umi.com/pqdweb?did=769768951&Fmt=7&clientId=65345&RQT=309&VName=PQD	
Perspective (Theoretical Lens)	**Propositions**	**Link**	**Remark**
(1) Absorptive capacity is defined as a set of organizational routines and processes by which firms acquire, assimilate, transform, and exploit knowledge to produce a dynamic organizational capability. (2) Absorptive capacity consists of two subsets of potential and realized absorptive capacities. Potential capacity comprises knowledge acquisition and assimilation capabilities, and realized capacity centres on knowledge transformation and exploitation.(3) Activation triggers are events that encourage or compel a firm to respond to specific internal or external stimuli. (4) Regime of appropriability refers to the institutional and industry dynamics that affect the firm's ability to protect the advantages of (and benefit from) new products or processes	(1) The greater a firm's exposure to diverse and complementary external sources of knowledge, the greater the opportunity is for the firm to develop its PACAP. (2) Experience will influence the development of a firm's PACAP. Specifically, experience influences the locus of search and the development of path-dependent capabilities of acquisition and assimilation of externally generated knowledge. (3) Activation triggers will influence the relationship between (the source of knowledge and experience and PACAP. Specifically, the source of an activation trigger will influence the focus of search for external sources of knowledge while the intensity of the trigger will influence the investments in developing the requisite acquisition and assimilation capabilities. (4) Use of social integration mechanisms reduces the gap between PACAP and RACAP, thereby increasing the efficiency factor (r)). Social integration mechanisms lower the barriers (o information sharing while increasing the efficiency of assimilation and transformation capabilities. (5) Firms with well-developed capabilities of knowledge transformation and exploitation (BACAP) are more likely to achieve a competitive advantage through innovation and product development than those with less developed capabilities. (6) Firms with well-developed capabilities of knowledge acquisition and assimilation (PACAP) are more likely to sustain a competitive advantage because of greater flexibility in reconfiguring their resource bases and in effectively timing capability deployment at lower costs than those with less developed capabilities. (7) The regime of appropriability moderates the relationship between RACAP and sustainable competitive advantage, specifically as described below. (7a) Under strong regimes of appropriability, there will be a significant and positive relationship between RACAP and a sustainable competitive advantage because of the higher costs associated with imitation. (7b) Under weak regimes of appropiiability, there will be a significant and positive relationship between RACAP and a sustainable competitive advantage only when firms protect their knowledge assets and capabilities through isolating mechanisms. If not, such a relationship is likely to be weak or nonexistent.	http://proquest.umi.com/pqdweb?index=6&did=1154654522&SrchMode=1&sid=1&Fmt=2&VInst=PROD&VType=PQD&RQT=309&VName=PQD&TS=1183454914&clientId=3224	

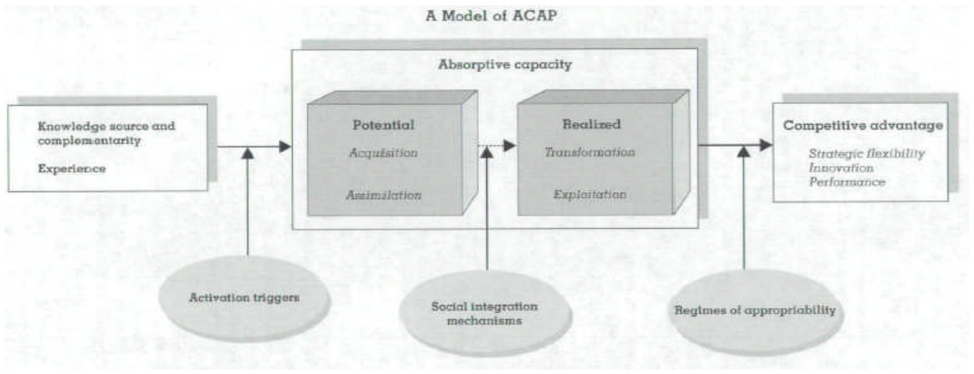
Social Capital Dimensions Across Network Types

Social Capital Dimensions	Intracorporate Network	Strategic Alliance	Industrial District
Structural			
Network ties	Fuzzy distinction between intramember and intermember ties	Intermember ties determining social ties within an alliance	Social ties as a foundation for intermember ties
Network configuration	Hierarchical, easy to establish connectivity between network members	Nonhierarchical, possibility of exploiting structural hole positions	Nonhierarchical and dense networks in a geographical region
Network stability	Stable membership	High rate of instability	Dynamic, with members joining and leaving the district
Cognitive			
Shared goals	Members working toward a common goal set by headquarters	Compatible goals but rarely common goals	Neither shared nor compatible goals
Shared culture	Overarching corporate culture	Cultural compromise/conflict among members	Industry recipe
Relational: Trust	Little risk of opportunism, institutional-based trust	Significant risk of opportunism, behavioral-based trust	Process-based personal trust

2

Appendix

Rating



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5		2002	Bhagat, Rabi S, Kedia, Ben L., Harveston, Paula D., & Triandis, Harry C.	Cultural variations in the cross-border transfer of organizational knowledge: An integrative framework	The Academy of Management Review	(1) Present a conceptual model of cross-border transfer of organizational knowledge that explicitly take into account the nature of cultural variations; (2) advance some propositions that explain various scenarios involved in the effectiveness of knowledge transfer, and (3) examine the relevance of these propositions for future research on knowledge transfer.	Both	Knowledge	Not Specified	Both	Organisation level

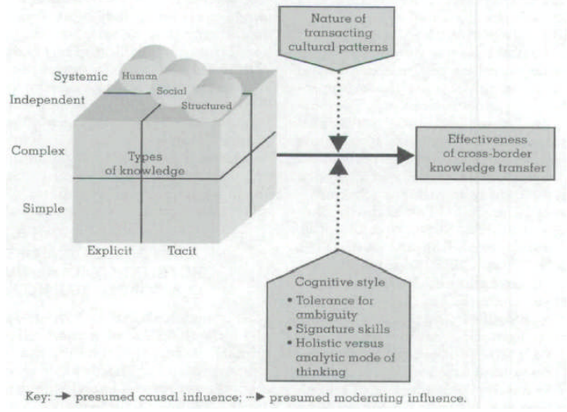
						Research Unit(s) & Context				
Citation	Year	Author(s)	Title	Published in (Journal)	Research Question(s)/Aim(s)	Mode	Transferred Subject(s)	Channel	Point of View	Level of Analysis
6	63	2000	Argote,Linda; Ingram, Paul	Knowledge transfer: A basis for competitive advantage in firms	Organizational behaviour and human decision processes	Present a conceptual framework for analysing knowledge transfer in organisations	Intra-firm	Knowledge	within MNC	Both	Units of a MNC

Knowledge-based View, Cultural Study.	(1) Cross-border transfer of organizational knowledge is most effective in terms of both velocity and viscosity when the type of knowledge (i.e., human, social, or structured) being transferred is simple, explicit and independent and when such transfers involve similar cultural contexts. In contrast, transfer is least effective when the type of knowledge being transferred is complex, tacit, and systemic and involves dissimilar cultural contexts. (2) Organizations located in individualist cultures are better able to transfer and absorb knowledge (i.e., human, social, or structured) that is more explicit and independent. In contrast, organizations located in collectivist cultures are better able to transfer and absorb knowledge that is more tacit and systemic. (3a) The transfer of knowledge (human, social, or structured) is most effective when the transacting organizations are located in national contexts with identical cultural patterns (e.g., vertical individualist to vertical individualist, horizontal collectivist to horizontal collectivist). (3b) The transfer of knowledge is less effective when the transacting organizations are located in national contexts that differ on the individualism-collectivism dimension (e.g., from individualist to collectivist contexts) or on the verticalness-horizontalness dimension (e.g., from vertical to horizontal contexts). (3c) The transfer of knowledge is least effective when the transacting organizations are located in national contexts that differ on both facets (e.g., vertical individualist to horizontal collectivist). (4) Cross-border transfer of organizational knowledge (human, social, or structured) from organizations in vertical individualist cultures to those in vertical individualist cultures is likely to be most effective. Such transfers from organizations in vertical individualist cultures to those in horizontal collectivist cultures are likely to be least effective. The process of cross-border transfer is facilitated when the type of knowledge being transacted is explicit and independent, as opposed to tacit and systemic. (5) Cross-border transfer of organizational knowledge (human, social, or structured) from organizations in horizontal individualist cultures to those in horizontal individualist cultures is likely to be most effective. Such transfers from organizations in horizontal individualist cultures to those in vertical collectivist cultures are likely to be least effective. The process of cross border transfer is facilitated when the type of knowledge being transferred is explicit and independent, as opposed to tacit and systemic. (6) Cross-border transfer of organizational knowledge (human, social, and structured) from organizations in vertical collectivist cultures to those in vertical collectivist cultures is likely to be most effective. Such transfers from organizations in vertical collectivist cultures to those in horizontal individualist cultures are likely to be least effective. The process of cross border transfer is facilitated when the type of knowledge being transferred is tacit and systemic, as opposed to explicit and independent.	http://proquest.umi.com/pqdweb?index=2&did=1154654544&SrchMode=3&sid=1&Fmt=2&VInst=PROD&VType=PQD&RQT=309&VName=PQD&TS=1174397004&clientId=3224&aid=1	(7) Cross-border transfer of organizational knowledge (horizontal collectivist cultures to those in horizontal transfers from organizations in horizontal collectivis be least effective. The process of cross-border tran transferred is tacit and systemic, as opposed to exp (8) Tolerance for ambiguity, signature skills, and holisti effectiveness of cross-border transfer of organizatio (8a) Higher tolerance for ambiguity in the recipient orga absorption of knowledge. (8b) Higher levels of signature skills on the part of indiv organizations facilitate the transfer and absorptior (8c) Higher levels of analytic thinking in the transferring and absorption of complex, explicit, and systemic (8d) Higher levels of holistic thinking in the transferring absorption of tacit, complex, and systemic types o

Perspective (Theoretical Lens)	Propositions	Link	Remark
Knowledge-based View. (1) Knowledge transfer in organizations is the process through which one unit (e.g., group, department, or division) is affected by the experience of another. (2) Knowledge transfer can be measured by measuring changes in knowledge or changes in performance.	(1) Knowledge is embedded in the three basic elements of organizations—members, tools, and tasks—and the various subnetworks formed by combining or crossing the basic elements. Members are the human components of organizations. Tools, including both hardware and software, are the technological component. Tasks reflect the organization's goals, intentions, and purposes. (2) The basic elements of organizations combine to form subnetworks. The member–member network is the organization's social network. The task–task network is the sequence of tasks or routines the organization uses. The tool–tool network is the combination of technologies used by the organization. The member–task network (or the division of labor) maps members onto tasks. The member–tool network assigns members to tools. The task–tool network specifies which tools are used to perform which tasks. The member–task–tool network specifies which members perform which tasks with which tools. (3) Knowledge transfer can be achieved by either moving reserviours and networks or by modifying knowledge reserviours of the recipient units.	http://proquest.umi.com/pqdweb?did=54159003&Fmt=7&clientId=65345&RQT=309&VName=PQD	

transfer of organizational knowledge (human, social, and structured) from organizations in
l collectivist cult to those in horizontal collectivist cultures is likely to be most effective. Such
from organizatio horizontal collectivist cultures to those in vertical individualist cultures are likely to
effective. The pro of cross-border transfer is facilitated when the type of knowledge being
ed is tacit and systemic opposed to explicit and independent.
e for ambig signature skills, and holistic versus analytic modes of thinking moderate the
ness of c-border transfer of organizational knowledge, regardless of the cultural patterns involved.
toleranc ambiguity in the recipient organization facilitates the process of cross-border transfer and
tic knowledge.
levels of signa skills on the part of individuals in the transferring as well as in the recipient
:ations facilitate transfer and absorption of cross-border organizational knowledge.
levels of ana thinking in the transferring as well in the recipient organization facilitate the transfer
sorption of complex, exp and systemic knowledge.
levels of ho thinking in the transferring as well in the recipient organization facilitate the transfer and
tion of tacit, com and systemic types of knowledge.

A Model of Knowledge Transfer in a Cross-Border Context



Key: → presumed causal influence; ⇢ presumed moderating influence.

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Appendix

Rating

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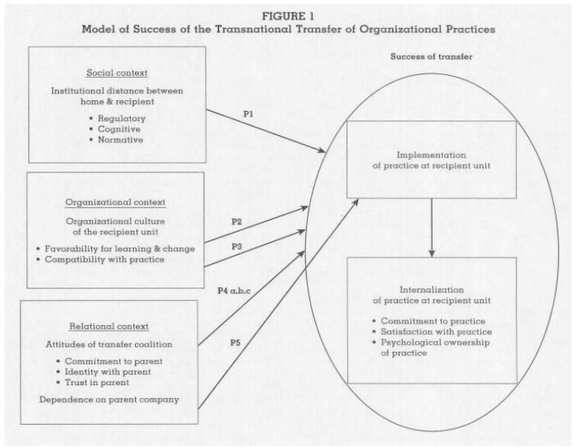
7		1999	Kostova,Tatiana	Transnational transfer of strategic organizational practices: A contextual perspective	The Academy of Management Review	What are the factors influencing strategic organisational practices, considering the context of transfer?	Intra-firm	Strategic organizational practices	within MNC	Recipient	Units of a MNC
8	54	1988	Kedia,Ben L.; Bhagat,Rabi S.	Cultural Constraints On Transfer Of Technology Across Nations: Implications for research in international and comparative management	The Academy of Management Review	Present a conceptual model of technology transfer across nations that explicitly takes into account the roles of two kinds of cultural factors and receptivity to technological change on the part of the recipient countries	Both	Technologies (classified into process-embodied technology, product embodied technology, and person-embodied technology)	Not Specified	Both	Organisation level

Institutional Theory, Culture Study, Social Capital. The process of transfer is socially embedded in the social context, organisational context, and the relational context. The success of transfer as the degree of institutionalization of the practice at the recipient unit. Institutionalization is conceptualized at two levels: implementation and internalization, wherein implementation is the degree to which the recipient unit follows the formal rules implied by the practice, and Internalization is that state in which the employees at the recipient unit attach symbolic meaning to the practice-they "infuse it with value".	(1) The success of transfer of a strategic organizational practice from a parent company to a recipient unit is negatively associated with the institutional distance between the countries of the parent company and the recipient unit; (2) The success of transfer of a strategic organizational practice from a parent company to a recipient unit is positively associated with the degree to which the unit's organizational culture is generally supportive of learning, change, and innovation; (3) The success of transfer of a strategic organizational practice from a parent company to a recipient unit is positively associated with the degree of compatibility between the values implied by the practice and the values underlying that unit's organizational culture; (4) The success of transfer of strategic organizational practices from a parent company to a recipient unit is positively associated with (a) the commitment of the transfer coalition at the recipient unit to the parent company, (b) the identity of the transfer coalition with the parent company, and (c) the trust of the transfer coalition in the parent company; (5) The perceived dependence of a recipient unit on the parent company will be positively associated with the implementation but not internalization of the practice that is being transferred to that unit.	http://proquest.umi.com/pqdweb?did=40742297&Fmt=7&clientId=65345&RQT=309&VName=PQD	
Cultural Study.	(1) Process- and person- embodied technologies are more difficult than product-embodied technologies to transfer and diffuse across nations because cultural differences at the organisational, as well as the societal, level play greater roles in such transfers. (2) Transfer of technology is easier between organisations that are similar in terms of their societal/national culture-based tendencies to either avoid or embrace uncertainty generated in their organisational contexts due to such transfer. (3) Technologies that might introduce significant changes in the distributions of power, status (real and symbolic), rewards in the recipient organisation of the developing country that emphasizes power distance are least likely to be effectively transferred. (4a) Organisations located in individualistic cultures are more successful than organisations located in collectivistic cultures in their propensity to absorb and diffuse imported technology. (4b) However, collectivistic cultures that are fairly masculine also are effective in such matters. (5) Masculine cultures are more effective than feminine cultures in absorbing and diffusing imported technology in organisational contexts. (6) Abstractive cultures are more effective than associative cultures in their ability to absorb and diffuse imported technology. (7) Differences in the negotiated orders of the cultures of the organisations involved in the transfer and diffusion of technology cross nations adversely affect the effectiveness of such transfers. (8) Cosmopolitan organisations in societies that also have a sophisticated technical and an appropriate strategic management orientation are more effective than local organisations in systematically managing technology transfers.	http://proquest.umi.com/pqdweb?did=141943&Fmt=7&clientId=65345&RQT=309&VName=PQD	

FIGURE 1
Model of Success of the Transnational Transfer of Organizational Practices



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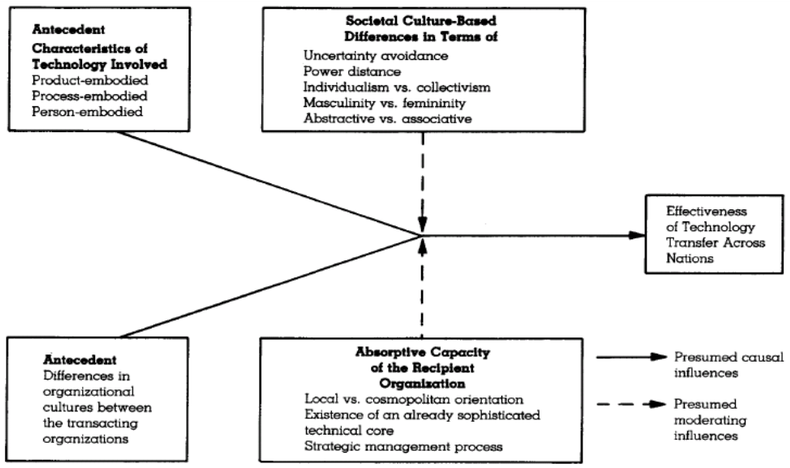

Figure 1. **A conceptual model for understanding cultural constraints on technology transfers across nations.**

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