

Knowledge Management and Organizational Learning

Series Editor Ettore Bolisani ¹

Series Editor Meliha Handzic ²

¹ University of Padua, Padova, Italy

² International Burch University, Sarajevo, Bosnia and Herzegovina &

Suleyman Sah University, Istanbul, Turkey, Sarajevo, Bosnia and Herzegovina

This series is introduced by the International Association for Knowledge Management (www.IAKM.net) with an aim to offer advanced peer-reviewed reference books to researchers, practitioners and students in the field of knowledge management in organizations. Both discussions of new theories and advances in the field, as well as reviews of the state-of-the art will be featured regularly. Particularly, the books will be open to these contributions: Reviews of the state-of-the art (i.e. syntheses of recent studies on a topic, classifications and discussions of theories, approaches and methods, etc.) that can both serve as a reference and allow opening new horizons Discussions on new theories and methods of scientific research in organisational knowledge management Critical reviews of empirical evidence and empirical validations of theories Contributions that build a bridge between the various disciplines and fields that converge towards knowledge management (i.e.: computer science, cognitive sciences, economics, other management fields, etc.) and propose the development of a common background of notions, concepts and scientific methods Surveys of new practical methods that can inspire practitioners and researchers in their applications of knowledge management methods in companies and public services.

This is a SCOPUS-indexed book series.

More information about this series at
<http://www.springer.com/series/11850>

Understanding Knowledge-Intensive Business Services

Identification, Systematization, and Characterization of Knowledge Flows

Malgorzata Zieba ³

³ Department of Management, Faculty of Management and Economics, Gdańsk University of Technology, Gdańsk, Poland

DOI 10.1007/978-3-030-75618-5

ISBN 978-3-030-75617-8

ISBN 978-3-030-75618-5 (eBook)

© Springer Nature Switzerland AG 2021

Knowledge Management and Organizational Learning

Author's Habilitation thesis originally published by Gdańsk University of Technology Publishing House in 2018 under the title “Wiedza i jej przepływy w firmach oferujących wiedzochłonne usługi biznesowe”.

1th edition: © The Author 2018

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors, and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of

publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG.

The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Introduction

Knowledge and its importance for humanity are nothing new—even in prehistoric times, those who had knowledge of finding food or seeking shelter had a better chance of survival than those who did not. Despite the passage of many thousands of years, the ability to create, store, develop, apply and transmit knowledge is still the key driving force of human life, as well as the basis of the civilization development of mankind. Society develops through learning and passing knowledge to younger generations, as well as embedding knowledge in tangible and intangible objects. At the stage of the industrial revolution, knowledge was mainly contained in technological solutions and manufactured products, and nowadays it is more and more often embedded in intangible solutions that are difficult to assess.

One of the main features of the knowledge-based economy is the growing importance of services in developed countries, especially knowledge-intensive business services (Ciriaci & Palma, 2016). To bring new products and processes to the market, companies nowadays need a broad set of skills and knowledge which they often do not have in their resources and which they have to look for externally. They are helped by companies offering knowledge-intensive business services (KIBS), filling the gaps in the knowledge and skills of their clients while allowing them to optimally use their own resources for other purposes. Therefore, over the past 20 years, researchers and policymakers have

shown a growing interest in knowledge-intensive business services, mainly due to the growing number of companies offering such services and the growing demand for them. Moreover, such services significantly contribute to the productivity of the industries they serve (Miles, 2005). The aspects related to the functioning of this type of companies have so far been rarely discussed; the main research perspective covered macroeconomic issues related to the entire sector of knowledge-intensive business services.

The subject of interest of this book is knowledge and its flows in small- and medium-sized enterprises (SMEs) offering knowledge-intensive business services (KIBS). The main goal of the work **was is** to present the theoretical foundations and empirical findings regarding knowledge and knowledge flows in the area of knowledge management, to contribute to the development of management theory in this selected area. The study attempts to comprehensively discuss the phenomenon of knowledge flows taking place both inside small- and medium-sized companies offering knowledge-intensive business services (KIBS SMEs) and between KIBS SMEs and their broadly understood environment, and to explain the importance of knowledge and its impact on the competitive advantage of these companies.

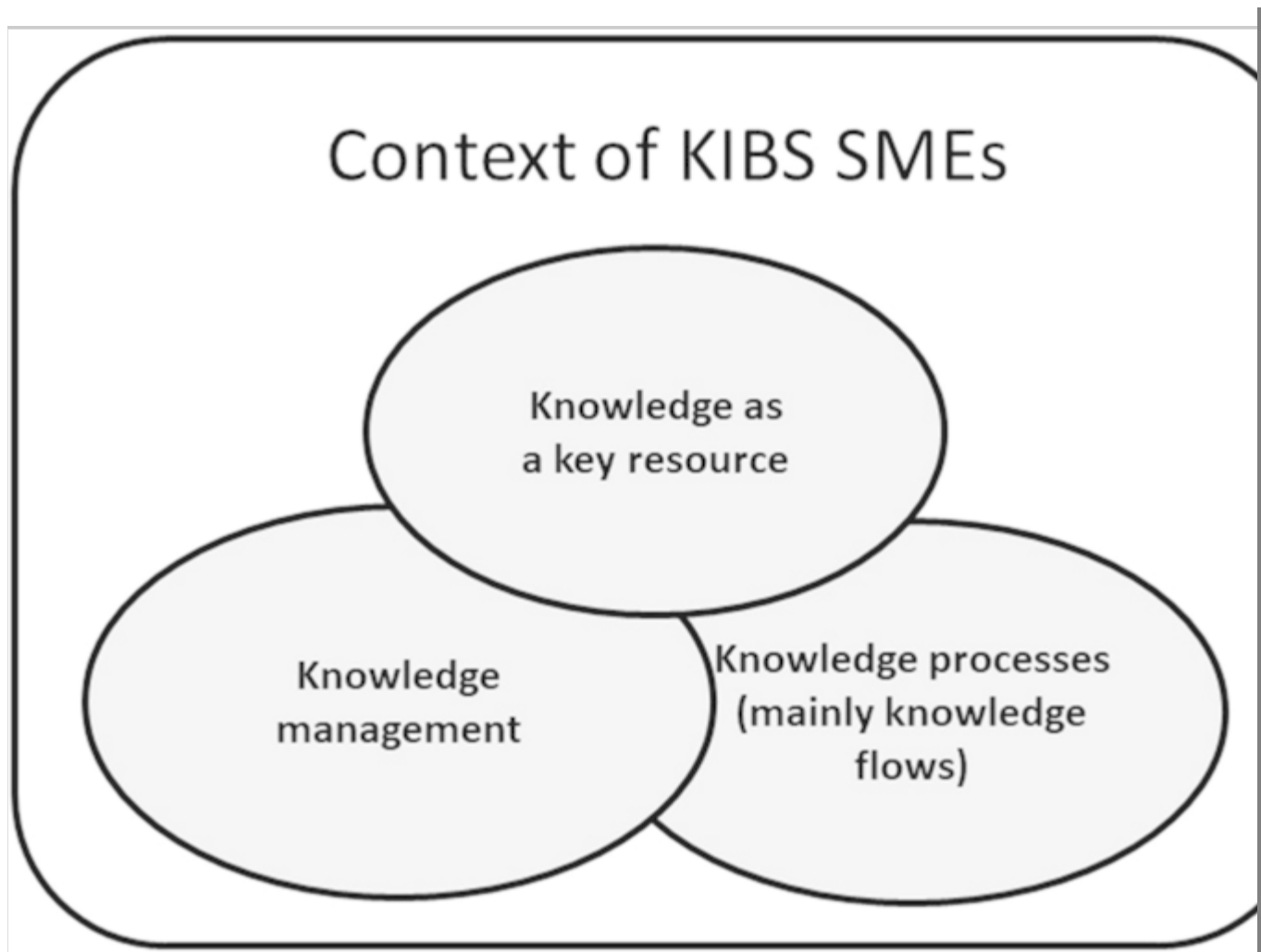
This topic was taken up by the author for several reasons. First, there are still few publications on knowledge and knowledge management in small- and medium-sized enterprises. This topic is best researched in large, mainly international organizations (e.g. HP, Ernst & Young), which often conduct research themselves to be able to better manage their knowledge. The issues of knowledge and knowledge management in large companies have already been quite thoroughly researched and described, while in small- and medium-sized companies they are still an under-explored topic. Secondly, KIBS SMEs are relatively poorly understood in the area of their operations and management methods, including knowledge management. Research on the importance of knowledge and its particular types and knowledge management in this type of companies is still in the preliminary phase and there are few publications dealing with this subject. Third, for companies in the knowledge-intensive business services sector, the importance of knowledge is crucial, which justifies research into how these companies perceive knowledge and its impact on their competitive position, and how knowledge flows within, and between the

environment. The subject of knowledge flows is poorly researched in the literature on the subject, and it should be expected that knowledge flows should be a natural phenomenon in companies offering knowledge-intensive business services. On the one hand, organizations of this type store knowledge in the form of knowledge resources, and on the other hand, they constantly need to gain new knowledge, link it with the possessed knowledge and transform into a constantly improving offer for their clients.

This work combines three important research areas, namely: (1) knowledge as a key resource, (2) knowledge processes (including its flows) and (3) knowledge management (Fig. 1). The discussed topic is up-to-date, and an additional, significant value of the study is undertaking research in the KIBS sector. Despite a significant increase in interest in KIBS companies and their role in the economy, the number of studies devoted to this issue is still small compared to the number of studies dealing with manufacturing companies (Muller & Doloreux, 2009). An additional justification for the subject matter of this book is the **desire willingness** to fill the research gap relating to KIBS companies in the economies referred to as emerging markets, which include the Polish economy. As noted by Muller and Doloreux (2009), out of 82 publications published up to 2005 and analysed in their bibliometric study, only two concerned Central and Eastern Europe. Even though more than a decade has passed since then, and there are studies on emerging markets in Asia (e.g. Liu, 2009; Wong & Singh, 2004), the number of literature on KIBS companies in emerging markets in Central and Eastern Europe is very limited (exceptions include, e.g. Baláž, 2004). Similar conclusions can be drawn on the basis of the analysis conducted by Scarso (2015) in which the author analysed 190 articles on KIBS from 87 journals. Of these studies, only five concerned Eastern Europe. ~~The above~~ **All this** confirms that the research in this area is practically unexplored.

Fig. 1

Research areas discussed in this study. Source: Author's own illustration



AQ1

Two areas can be distinguished in the book: theoretical and empirical. Theoretical considerations, based on a literature review, made it possible to explain and organize the existing achievements in the area of knowledge management and the sector of knowledge-intensive business services, and thus—to identify a research gap. Particular attention was paid to the aspect of knowledge transfer, which was the starting point for creating the concept of knowledge flows. The effect of theoretical considerations is the concept of knowledge flows, along with its foundations and implications. The developed theoretical concept of knowledge flows, including characteristics of flows, the taxonomy of their dimensions, types of flows, as well as factors determining individual types, were verified in small- and medium-sized companies offering knowledge-intensive business services. The empirical research was aimed at achieving the following research goals:

- diagnosis of the most important types of knowledge used by KIBS companies;
- identifying types of knowledge that affect the competitive position of KIBS companies;
- diagnosis of ways of perceiving and using knowledge by companies offering knowledge-intensive business services;
- identification and characterization of knowledge flows within the organization and between the inside and outside of KIBS;
- diagnosis of potential factors influencing particular types of flows;
- developing a conceptual model for knowledge and its flows in KIBS companies.

The work consists of six chapters, preceded by an introduction and ended with a part containing a discussion of the research results and conclusions and recommendations, as well as indicating the limitations and future directions of research. The first chapter presents selected issues related to knowledge and knowledge management in companies. First, various definitions of knowledge were discussed, and afterward a definition used for the book was proposed. A set of knowledge characteristics and typologies were also developed, and the potential impact of knowledge on the competitive advantage of the organization was explained. This chapter also provides a synthetic overview of the approaches to knowledge management along with their comparison. The presentation of the concept of knowledge management provided a broad background for the concept of knowledge flows.

In the second chapter, the concept of knowledge flow has been presented and defined by the author. Since the concept of knowledge flow is poorly established in the management literature, its theoretical foundations were developed and the taxonomy of knowledge flows was proposed, together with the potential factors influencing the flow of knowledge within the organization and between the organization and its environment. The concept of knowledge

flows was created in response to the challenges which contemporary organizations have to face, which include, among others: the need to obtain knowledge “on-demand” and its availability here and now, whenever it is needed; strong connection of knowledge (especially tacit knowledge) with the minds of employees who have it and may, for example, not want to share it; locating knowledge in different places in the organization; high level of formalization or structuring of solutions in the KM area, which are often not available to small- and medium-sized organizations (e.g. due to the costs of their implementation and maintenance); often exaggerated focus on solutions in the area of information technology (IT), which are becoming more and more available, while forgetting about the basic methods of transferring knowledge (e.g. through conversations); the importance of an organizational culture conducive to the exchange of knowledge.

The third chapter presents the definitional issues and the characteristics of knowledge-intensive business services. An attempt was made to organize and define such terms as knowledge-intensive business services, a company offering knowledge-intensive business services or the sector of knowledge-intensive business services. Based on the available literature, the most important aspects related to the definition and classification of KIBS sector services were discussed, and the potential reasons for the growing importance of companies in this sector were analysed. A literature review revealed numerous discrepancies in the definition of these key terms by various KIBS researchers.

The fourth chapter is a prelude to considerations related to knowledge and its flows in companies in this sector. It was also aimed to show a solid basis for undertaking research work. As KIBS companies are dynamically developing in the economy, contributing to the introduction of innovations not only in their own area, but also in the companies of their clients, it is worth examining how they treat their most important resource—knowledge. It should be noted that the vast majority of publications on companies offering knowledge-intensive business services analyse them from the perspective of broadly understood economic sciences, and not management sciences.

The fifth chapter refers to the previous theoretical considerations regarding

knowledge, its flows and knowledge management in the context of companies offering knowledge-intensive business services. This chapter also outlines the main research questions concerning, inter alia, knowledge important from the point of view of the functioning of KIBS SMEs, how this knowledge affects the competitive advantage of companies, knowledge flows within KIBS SMEs and between them and the environment, tools and technologies used for knowledge flows or factors determining individual types of knowledge flows. Since these issues have not been studied in the literature so far, and are also characterized by high complexity, it was decided to conduct a case study research, which is an appropriate choice for developing or testing economic theories. To maintain methodological rigour, the procedures for collecting and documenting the data were chosen as recommended (Creswell, 2013, pp. 191–193). The research was conducted in the spirit of the interpretative paradigm, because its goals included extending and verifying the theory of knowledge and its flows in KIBS SMEs, and moreover, in this type of research, the assumption is that “the reality is constructed and cannot be fathomed out or explained with direct reference to universal laws” (Brewerton & Millward, 2001, p. 11). In the case of research on knowledge-related phenomena in the context of KIBS SMEs, many aspects may be perceived as obvious, and at the same time reaching deeper meanings and explaining the reasons for this state of affairs play an important role. Another argument in favour of this paradigm was the author’s knowledge of KIBS companies, resulting from previous research conducted in such organizations. In interpretative research, the researcher should be close to the research issue and analyse the research results in a subjective way (Gupta & Awasthy, 2015, p. 12). All these methodological foundations for the study, as well as the study itself, were described in this chapter.

In the sixth chapter, the results of empirical research on knowledge and its flows in companies offering knowledge-intensive business services are presented. The survey covered a total of 14 companies offering knowledge-intensive business services, such as advertising services, accounting services, technical design services and IT services. The obtained empirical material in combination with the available literature allowed for the verification of the theoretical framework regarding knowledge and its flows in the surveyed KIBS companies.

The last part of the book offers the discussion of the most important research results and the presentation of a conceptual model covering knowledge and its flows in KIBS companies. It also presents the limitations of the study and future research avenues.

The reader should be aware that this book concerns a specific sector of reality—the reality in which companies from the KIBS SME sector operate. Although we are currently witnessing a revolution known as Industry 4.0 or the Internet of Things, one should be aware that the above phenomena do not apply to all enterprises to the same extent and not all processes in the economy can be automated. The example of companies from the KIBS SME sector shows that there are still areas that are not suitable for automation and in which people are necessary. Helping and advising other entities, while analysing the entire complexity of their functioning, cannot be addressed with a simple framework.

This work is an improved version of the previous studies. It would not have been written in its present form if it had not been for the support and valuable advice of many people. First of all, I would especially like to thank the Editor of the Book Series, prof. Ettore Bolisani for the possibility to publish this book and all his help at all the stages, as well as substantive and insightful comments on the first version of this book. I would also like to express my gratitude to my colleagues and friends from the International Association for Knowledge Management, especially to prof. Enrico Scarso for joint adventure on KIBS examination and to prof. Constantin Bratianu for his support and useful remarks. Finally, I would like to dedicate this book to my fantastic kids, Ola and Peter, who bring lots of joy and inspiration to my life.

I would like to wish the readers of this book many insightful experiences while reading it and I hope that the book will result in new research areas concerning not only knowledge flows, but also the broadly perceived knowledge-intensive business services sector.

Acknowledgements The author greatly acknowledges the financial support from the National Science Center, Poland, within the grant no. UMO-2016/21/B/HS4/03051, entitled Knowledge management strategies and their determinants in companies from the knowledge-intensive business

services sector.

References

Baláž, V. (2004). Knowledge-intensive business services in transition economies. *The Service Industries Journal*, 24(4), 83–100. <https://doi.org/10.1080/0264206042000275208>

Brewerton, P., & Millward, L. (2001). *Organizational research methods*. Sage Publications.

Ciriaci, D., & Palma, D. (2016). Structural change and blurred sectoral boundaries: Assessing the extent to which knowledge-intensive business services satisfy manufacturing final demand in Western countries. *Economic Systems Research*, 28(1), 55–77. <https://doi.org/10.1080/09535314.2015.1101370>

Creswell, J. (2013). *Research design. Qualitative, quantitative, and mixed method approaches*. Sage Publications.

Gupta, R. K., & Awasthy, R. (2015). In R. K. Gupta & R. Awasthy (Eds.), *Qualitative research in management. Methods and experiences*. Sage Publications.

Liu, S. (2009). Determinants of service innovative dimensions in knowledge intensive business services: Evidence from PR China. *International Journal of Technology Management*, 48(1), 95–114.

Miles, I. (2005). Knowledge intensive business services: Prospects and policies. *Foresight*, 7(6), 39–63. <https://doi.org/10.1108/14636680510630939>

Muller, E., & Doloreux, D. (2009). What we should know about knowledge-intensive business services. *Technology in Society*, 31(1), 64–72. <https://doi.org/10.1016/j.techsoc.2008.10.001>

Scarso, E. (2015). What do we know about KIBS? Results of a systematic

literature review. In J. C. Spender, G. Schiuma, & V. Albino (Eds.), *IFKAD 2015: 10th international forum on knowledge asset dynamics: Culture, innovation and entrepreneurship: Connecting the knowledge dots* (pp. 1159–1172).

Wong, P. K., & Singh, A. (2004). The pattern of innovation in the knowledge-intensive business services sector of Singapore. *Singapore Management Review*, 26(1), 21.

Contents

1 Knowledge and Knowledge Management

1.1 Knowledge in Organizations

1.1.1 Knowledge

1.1.2 Managerial Features of Knowledge

1.1.3 Typologies of Knowledge

1.2 Selected Approaches to Knowledge Management

1.2.1 Japanese Approach to Knowledge Management

1.2.2 Resource Approach to Knowledge Management

1.2.3 Process Approach to Knowledge Management

1.2.4 Comparison of Approaches to Knowledge Management

1.2.5 Customer Knowledge Management

1.3 Summary

References

2 Knowledge Transfer and Knowledge Flows

2.1 Knowledge Transfer vs. the Concept of Knowledge Flows

2.1.1 The Concept of Knowledge Flows Versus Other Concepts

2.2 The Subject of Knowledge Flow and Its Stages

2.3 Technologies and Knowledge Flows

2.4 The Flow of Knowledge and the Flow of Data and Information

2.5 Knowledge Flow Taxonomy

2.6 Factors Influencing the Flow of Knowledge

2.7 Summary

References

3 Knowledge-Intensive Business Services

3.1 Knowledge-Intensive Business Services Sector: Features, Definitions, Classifications

3.1.1 Features of Knowledge-Intensive Business Services

3.1.2 Definitions of Knowledge-Intensive Business Services and the Companies Offering Them

3.1.3 Services Included in the Sector of Knowledge-Intensive Business Services

3.1.4 Classifications of Knowledge-Intensive Business Services

3.2 Characteristics of Knowledge-Intensive Business Services Companies

3.2.1 Dependency on Knowledge

3.2.2 Adaptation to Customer Needs

3.2.3 Co-creation of Value and Co-production of Services

3.2.4 Creating and Supporting Innovation

3.2.5 Regional Concentration and Influence on the region's Economy

3.2.6 Networking

3.3 Summary

References

4 KIBS Companies and Their Importance for Economy and Innovation

4.1 Review of the Literature on KIBS Companies

4.1.1 Phases and Areas of Research on Companies from the Knowledge-Intensive Business Services Sector

4.1.2 Companies from the Knowledge-Intensive Business Services Sector and Innovations

4.1.3 Companies from the Knowledge-Intensive Business Services Sector and Their Interactions with the Environment

4.1.4 Companies from the Knowledge-Intensive Business Services Sector and Their Basic Resource

4.1.5 Companies from the Knowledge-Intensive Business Services Sector: Other Research Areas

4.2 The Importance of the KIBS Sector for the Economy

4.3 Summary

References

- 5 Knowledge Flows in KIBS Companies: Theoretical Framework and Study Description
 - 5.1 Knowledge and Approaches to Knowledge Management in Companies Offering KIBS
 - 5.1.1 Knowledge Flows and Their Types in Companies Offering Knowledge-Intensive Business Services
 - 5.1.2 Knowledge Flows Between the Company Offering Knowledge-Intensive Business Services and the Client
 - 5.1.3 Knowledge Management in Companies Offering Knowledge-Intensive Business Services
 - 5.2 Methodological Foundations of the Research and Description of the Research Method
 - 5.3 Study Description
 - 5.4 Summary
- References

- 6 Knowledge and Its Flows in the Light of Empirical Research
 - 6.1 Characteristics of the Surveyed Companies
 - 6.1.1 Services Offered
 - 6.1.2 Organizational Structure
 - 6.2 Knowledge in Companies Offering KIBS
 - 6.2.1 Knowledge Essential for the Functioning of KIBS Companies and as a Source of Competitive Advantage
 - 6.2.2 Distribution of Knowledge in KIBS Companies
 - 6.2.3 Practices Related to Knowledge Management in the Surveyed KIBS Companies
 - 6.3 Knowledge Flows in Companies Offering KIBS
 - 6.3.1 Knowledge Flow Perception
 - 6.3.2 Types of Knowledge Flows in the Surveyed Organizations
 - 6.3.3 Knowledge Flow Between the Company and the Client
 - 6.3.4 Knowledge Flows and Workflows
 - 6.3.5 Knowledge Stuck and Ways to Counteract This Phenomenon in KIBS Companies
 - 6.3.6 Technologies and Tools in Knowledge Flows
 - 6.3.7 Factors Influencing the Flow of Knowledge

6.4 Summary

References

7 Discussion of the Research Results and Conclusions

7.1 Research Results: Discussion

7.2 Conclusions

References