

TABLE OF CONTENTS

INDEX OF TABLES.....	X
INDEX OF FIGURES.....	XI
INDEX OF RESEARCH ISSUES.....	XI
INDEX OF CHARTS.....	XII
INDEX OF ABBREVIATIONS	XIII
ACKNOWLEDGEMENTS.....	XV
1 INTRODUCTION.....	1
1.1 STATEMENT OF OBJECTIVES.....	2
1.2 STRUCTURE OF THE STUDY	3
2 THE CONCEPT OF MOBILE COMMERCE.....	5
2.1 THE CONCEPTUAL BACKGROUND AND PERSPECTIVE	5
2.1.1 Defining Electronic Business and Electronic Commerce.....	7
2.1.2 Defining Mobile Business and Mobile Commerce.....	10
2.1.3 The Mobile Commerce Perspective.....	13
2.2 THE FEATURES OF MOBILE COMMERCE	14
2.3 THE SPECIFIC ADVANTAGES OF MOBILE COMMERCE	15
3 THE REGULATORY FRAMEWORK OF MOBILE COMMERCE.....	17
3.1 REGULATIONS ON LEGAL ENFORCEABILITY OF CONTRACTS.....	19
3.2 REGULATIONS ON CONSUMER- AND DATA PROTECTION	21
3.3 CATEGORIES EXCLUDED FROM MOBILE COMMERCE	21
4 THE TECHNOLOGICAL FRAMEWORK OF MOBILE COMMERCE.....	23
4.1 TECHNOLOGIES FOR MOBILE DATA TRANSMISSION	23
4.1.1 The First Generation (1G).....	23
4.1.2 The Second Generation (2G).....	24
4.1.2.1 Global System for Mobile Communication (GSM).....	25
4.1.2.2 High Speed Circuit Switched Data (HSCSD)	26
4.1.3 The 2.5 Generation (2.5G)	27
4.1.3.1 General Packet Radio Service (GPRS):	27
4.1.3.2 Enhanced Data-rates for Global Evolution (EDGE).....	28
4.1.4 The Third Generation (3G).....	29
4.2 COMPLEMENTARY TECHNOLOGIES OF DATA TRANSMISSION.....	30
4.2.1 Wireless Local Area Network (WLAN).....	30

4.2.2 Bluetooth	31
4.3 DISPLAY AND PROGRAMMING STANDARDS	32
4.3.1 Wireless Application Protocol (WAP).....	32
4.3.2 i-mode.....	33
4.4 FUTURE-SCENARIO: THE FOURTH GENERATION (4G)	35
5 MOBILE APPLICATIONS & METHODS OF PAYMENT.....	36
5.1 OVERVIEW OF MOBILE APPLICATIONS	36
5.2 PAYMENT MECHANISMS FOR UTILISING MOBILE SERVICES.....	38
6 MOBILE COMMERCE IN BANKING SECTOR.....	41
6.1 DEFINITIONS AND SCOPE ISSUES	41
6.1.1 Scope of Banking Business	41
6.1.2 Scope of Financial Services.....	43
6.1.3 Scope of Mobile Banking.....	44
6.2 SERVICES OFFERED IN MOBILE BANKING.....	45
6.2.1 Mobile Accounting	45
6.2.1.1. Account Operation.....	46
6.2.1.2. Account Administration	46
6.2.2 Mobile Brokerage	47
6.2.2.1. Account Operation.....	48
6.2.2.2. Account Administration	48
6.2.3 Mobile Financial Information	48
6.2.3.1. Account Information.....	50
6.2.3.2. Market Information.....	51
7 MOBILE BANKING OFFERS & EMPLOYED MEDIUMS	53
7.1 BROWSER-BASED APPLICATIONS.....	54
7.1.1 WAP Banking.....	55
7.1.2 i-mode Banking.....	58
7.1.3 Web-based Mobile Banking (PDA Banking)	62
7.2 MESSAGING-BASED APPLICATIONS	62
7.2.1 SMS Banking.....	63
7.2.2 MMS Banking	63
7.3 CLIENT-BASED APPLICATIONS.....	66
7.3.1 SIM Toolkit (STK).....	67
7.3.2 JAVA-based Mobile Banking Clients	68
8 UTILITY OF MOBILE BANKING FOR BANKS.....	72

8.1 THE OUTSET OF BANKING ENVIRONMENT.....	72
8.1.1 Intensified Competition in Banking Sector.....	72
8.1.2 Adapting to Requirements of Core Target Groups.....	73
8.2 MOBILE BANKING AS DISTRIBUTION CHANNEL.....	75
8.2.1 Increasing Sales Volume.....	75
8.2.2 Reducing costs of distribution.....	76
8.2.3 Increasing customer satisfaction.....	76
8.3 MOBILE BANKING AS SOURCE OF REVENUE.....	77
8.4 MOBILE BANKING AS BUSINESS MODEL.....	78
8.5 MOBILE BANKING AS IMAGE PRODUCT.....	78
9 EMPIRICAL RESEARCH ON THE VIABILITY OF MOBILE BANKING.....	80
9.1 CUSTOMER ACCEPTANCE OF MOBILE BANKING.....	80
9.1.1 Methodology of the survey.....	80
9.1.2 Composition of Survey Participants.....	83
9.1.3 Customer Perception of Mobile Banking.....	89
9.1.3.1 Advantages of Mobile Banking.....	89
9.1.3.2 Disadvantages of Mobile Banking.....	90
9.1.3.3 Wish-list for Mobile Banking.....	91
9.1.3.4 Preferred Mobile Banking Applications.....	92
9.1.3.5 Preferred medium for availing mobile services.....	93
9.1.3.6 Importance of (affordable) Mobile Banking.....	95
9.1.4 Customer Response to Service Offers.....	97
9.1.4.1 Services in Mobile Accounting.....	98
9.1.4.2 Services in Mobile Brokerage.....	103
9.1.4.3 Services in Mobile Financial Information.....	106
9.1.4.4 Monthly Fee and Advertisements.....	111
9.1.5 Influence of Ignorance.....	112
9.1.6 Identifying Significant Attributes.....	114
9.1.7 Comparison with Other Empirical Surveys.....	115
9.1.7.1 University of Hamburg Study from Year 2001.....	115
9.1.7.2 Meridea Study from Year 2003.....	116
9.2 THE BANKS' PERSPECTIVE.....	118
9.2.1 Methodology of the survey.....	118
9.2.2 Composition of survey participants.....	120
9.2.3 Product Portfolios in Mobile Banking.....	122
9.2.3.1 Mobile Accounting.....	122
9.2.3.2 Mobile Brokerage.....	123

9.2.3.3. Mobile Financial Information.....	124
9.2.4 Mediums of Mobile Banking.....	125
9.2.5 Objectives Pursued by Mobile Banking Offers.....	127
9.2.6 General Issues relating to Mobile Banking.....	129
9.2.7 Arguments against Mobile Banking.....	132
9.2.8 Theses about Mobile Banking.....	133
10 STRATEGIC ASSESSMENT OF SURVEY RESULTS	136
10.1 RELEVANCE OF MOBILE BANKING	136
10.1.1 Significant customer interest	137
10.1.2 Potential advantages of offering mobile Services.....	137
10.1.3 Potential disadvantage of ignoring Mobile Banking.....	138
10.1.4 Issues of image & competition.....	138
10.2 APPROPRIATE SCOPE OF MOBILE BANKING	139
10.2.1 Need for a clear business focus.....	139
10.2.2 Concentration on right customer groups.....	140
11 CONCLUSIONS AND OUTLOOK	141
REFERENCES.....	143
APPENDIX-A: LIST OF PARTICIPANTS BANKS & INTERVIEW PARTNERS.....	157
APPENDIX-B: LIST OF GERMAN BANKS SURVEYED IN 2 ND -TIER RESEARCH.....	159
APPENDIX-C: LIST OF INTERNATIONAL BANKS SURVEYED IN 2 ND -TIER.....	160
APPENDIX-D: GERMAN-ENGLISH TERMINOLOGICAL EQUIVALENTS.....	161
APPENDIX-E: BACKGROUND PAPER ON GERMAN BANKING SECTOR.....	162
APPENDIX-F: QUESTIONNAIRE FOR CUSTOMER SURVEY.....	167
APPENDIX-G: QUESTIONNAIRE FOR BANKS' SURVEY.....	171

ENCLOSURE – 1: CD-ROM WITH DIGITAL INFORMATION