

VISUAL COMMUNICATION OF ASPECTS OF HUMAN INTELLECTUAL CAPITAL: A COMPARATIVE STUDY BETWEEN UK AND CHINESE FIRMS

By

Guotian Fu

Thesis submitted for the Degree of Doctor of Philosophy
in Management at Royal Holloway, University of London

Social Sciences: Business and Management Panel

January 2015

DECLARATION OF AUTHORSHIP

I, Guotian Fu, hereby declare that this thesis presented by me is entirely my own work.

Where I have consulted the work of others, this is always clearly stated.

Signed:

Date: 15-01-2015

In memory of my father and to my dear mother and to my dear wife and the others of
my family who provide incessant support

ACKNOWLEDGEMENTS

I would very much like to take this opportunity to thank my supervisor, Professor Jane Davison, for her knowledgeable supervision, patience and encouragement. Her profound expertise in this inter-disciplinary field, which associates visual communication with accounting, has been invaluable for my work. I can affirm with certainty that this thesis would not have been possible without her dedicated and meticulous supervision.

I would also like to thank my advisor, Professor Christopher Nobes, who gave me so much relevant guidance and deep insights, in particular his thorough comments on my draft work.

I would also like to take this chance to show my gratitude to those people – such as Professor Napier, Professor McSweeney, Dr Tang, Dr Zhao, Dr Ahwere, and Mr Sullivan – who have all helped me out in various ways.

Finally, I am really grateful to my parents, who have always given us not only infinite love but also encouragement to work hard in life.

ABSTRACT

This thesis focuses on the visual communication of aspects of the human intellectual capital of firms through a comparative study between UK and Chinese firms (from both mainland China and Hong Kong).

It makes use of a theoretical framework of impression management and Barthesian visual semiotics, extended by portraiture theory, to conduct a content analysis of the visual forms of the corporate reports of 150 companies (50 each from the UK, mainland China and Hong Kong) belonging to five sectors (Banking/Financial Services, Logistics, Energy, IT/Telecom, Retail). The research examines the overall visual content devoted to intellectual capital disclosure, especially that pertaining to human intellectual capital, and the breakdown between pictures, photographs, graphs and charts. It then analyses the pictures and photographs relating to the human intellectual capital to consider the comparative proportions of managers, employees and customers, together with dimensions linked to aspects such as their gender, age and dress.

The key findings are: (1) that there is a higher proportion of visual communication in the UK reports than there is in the Chinese ones (Hong Kong placing itself mid-way between the two), together with more visual communication of intellectual capital and a greater diversity in the visual forms; (2) all country groups make use of large proportions of visual material to communicate intellectual capital – especially human intellectual capital – and of more pictures and photographs than graphs and charts; (3) the Chinese reports present more depictions of males, older people and formal dress than the UK ones.

The research contributes to the work on visual communication in financial reporting by being the first study on the reporting made by Chinese companies (and in the Chinese reporting language) and by extending methodological considerations. It

contributes further through its detailed examination of the connections which exist between visual communication and intellectual capital disclosure, especially human intellectual capital, and by presenting a comprehensive analysis of the portrayal of people in annual reports.

TABLE OF CONTENTS

DECLARATION OF AUTHORSHIP.....	2
ACKNOWLEDGEMENTS.....	4
ABSTRACT.....	5
LIST OF TABLES.....	12
LIST OF FIGURES.....	15
LIST OF ABBREVIATIONS.....	19
CHAPTER ONE: INTRODUCTION.....	21
1.1 Background.....	21
1.2 What are the visuals in accounting and why are they important?.....	23
1.3 Research questions.....	25
1.4 Summary contribution/findings of this thesis.....	27
1.5 Organization of this thesis.....	29
CHAPTER TWO: LITERATURE REVIEW.....	31
2.1 Introduction.....	31
2.2 Visual communication.....	32
2.2.1 An introduction to visual communication	32
2.2.2 Visual impression management.....	33
2.2.3 Previous visual communication studies in accounting	35
Visual impression management and accounting.....	35
Visual media in accounting.....	36
Visual representations of intangibles.....	37
Visual representations of people in financial reporting.....	39
Effects of culture on accounting visual communication.....	41
2.3 Intellectual capital.....	43
2.3.1 An introduction to intellectual capital.....	43
2.3.2 Previous studies on intellectual capital disclosure.....	56
Early stage exploration.....	56
Burgeoning stage.....	58
IC information deficiency.....	58

IC information distribution and level.....	60
Effects of ICD on market capitalization.....	61
Human intellectual capital.....	61
2.3.3 Intellectual capital disclosure research in the UK.....	63
2.3.4 Intellectual capital disclosure research in China.....	65
2.4 Conclusions and contributions of this thesis.....	67

CHAPTER THREE: THEORY AND METHODOLOGY..... 70

3.1 Research strategy.....	70
3.2 Visual theoretical framework.....	73
3.2.1 Visual semiotics.....	73
3.2.2 Visual portraiture theory.....	77
3.3 Definitions of key concepts of the visual.....	80
3.3.1 An introduction to the visual conceptual framework.....	80
3.3.2 Pictures and photographs.....	82
Differentiating pictures and photographs.....	82
Pictures by technology.....	84
Photographs.....	84
Non-photographs.....	85
Mixed pictures.....	86
Pictures by linguistic message.....	86
Pure pictures.....	86
Inserted pictures.....	88
3.3.3 Graphs and charts.....	93
3.4 Identification of visualised human intellectual capital.....	95
3.4.1 Definition of human intellectual capital.....	95
3.4.2 Identification of human intellectual capital visual data.....	97
The cases of picture identification.....	99
The cases of graph/chart identification.....	102
Challenging issues in visual identification.....	103
3.4.3 Analysis of human intellectual capital portrayals.....	105
3.5 Counting methods.....	109
3.5.1 Counting visual images.....	109
3.5.2 Unit counting rules.....	110
3.5.3 Space counting rules.....	115
3.5.4 Portraits data identification and counting rules.....	119
3.6 Samples.....	120
3.7 Content analysis templates.....	123

CHAPTER FOUR: OVERALL COUNTRY AND INDUSTRY SECTOR FINDINGS.....	126
4.1 Introduction.....	126
4.2 Visual material by country groups.....	126
4.2.1 Overall visual data findings [Tables 1.1 and 1.2].....	126
4.2.2 Human intellectual capital visual data findings [Tables 1.3 &1.4]..	129
4.2.3 Detailed analysis of tables [Tables 1.1 to 1.4].....	130
4.3 Visual material by country and industry sector.....	143
4.3.1 Overall visual data findings [Tables 2.1 and 2.2].....	143
4.3.2 Human intellectual capital visual data findings [Tables 2.3 & 2.4].	145
4.3.3 Detailed analysis of tables [Tables 2.1 to 2.4].....	148
4.4 Visual material by industry sector.....	177
4.4.1 Overall visual data findings [Tables 3.1 & 3.2].....	177
4.4.2 Human intellectual capital visual data findings [Tables 3.3 & 3.4]..	179
4.4.3 Detailed analysis of tables [Tables 3.1 to 3.4].....	180
4.5 Conclusions and key findings.....	189
 CHAPTER FIVE: ANALYSIS OF VISUAL FORMS BY COUNTRY AND INDUSTRY SECTOR.....	 191
5.1 Introduction.....	191
5.2 Pure pictures.....	192
5.2.1 Overall visual data findings [Tables 4.1 & 4.2].....	192
5.2.2 Human intellectual capital visual data findings [Tables 4.3 & 4.4]..	195
5.2.3 Detailed analysis of tables [Tables 4.1 to 4.4].....	197
5.3 Inserted pictures.....	212
5.3.1 Overall visual data findings [Tables 5.1 & 5.2].....	212
5.3.2 Human intellectual capital visual data findings [Tables 5.3 & 5.4]..	215
5.3.3 Detailed analysis of tables [Tables 5.1 to 5.4].....	217
5.4 Graphs and charts.....	227
5.4.1 Overall visual data findings [Tables 6.1 & 6.2].....	227
5.4.2 Human intellectual capital visual data findings [Tables 6.3 & 6.4]..	230
5.4.3 Detailed analysis of tables [Tables 6.1 to 6.4].....	232
5.5 Analysis of graphs by job functions [Tables 6.5, 6.6 & 6.7].....	237
5.6 Conclusions and key findings.....	240

CHAPTER SIX: PORTRAIT ANALYSIS.....	243
6.1 Introduction.....	243
6.2 Analysis of pictures by HIC job function.....	244
6.2.1 Analysis of pictures by function.....	244
6.2.2 Detailed analysis of pure pictures by function.....	247
6.2.3 Detailed analysis of inserted pictures by function.....	250
6.3 Analysis of portraits by country and code (physical, dress, interpersonal and spatial) [Table 8.1].....	254
6.4 Analysis of portraits by country, job function (management, customers and employees) and code (physical, dress, interpersonal and spatial) [Tables 8.2 to 8.4].....	273
6.5 Analysis of portraits by country and industry sector, job function (management, customers and employees) and code (physical, dress, interpersonal and spatial) [Tables 9.1 to 9.5].....	289
6.6 Conclusions and key findings.....	297
CHAPTER SEVEN: CONCLUSIONS.....	301
7.1 Summary of main findings.....	301
7.1.1 The use of visual material across countries and industry sector including HIC data (Chapter 4).....	301
7.1.2 The use of visual forms by country and by industry sector (Chapter 5)	303
7.1.3 Portrait analysis by country and by industry sector (Chapter 6)...	304
7.2 Discussion of the contrast between UK and Chinese firms.....	306
7.3 The contributions of this thesis.....	308
7.4 The limitations of this research.....	311
7.5 Future research.....	312
REFERENCES.....	313
APPENDIX 1: THE CATEGORIES AND INDICATORS OF HIC.....	330
APPENDIX 2: INTERNATIONAL STANDARD PAPER SIZES.....	331
APPENDIX 3: LIST OF 150 COLLECTED ANNUAL REPORTS.....	332
APPENDIX 4: BLANK CONTENT ANALYSIS TEMPLATE SAMPLES.....	336
APPENDIX 5: TABLES 7.1 TO 9.5.....	353
APPENDIX 6: TRANSPARENCY TOOL FOR SPACE MEASUREMENT.....	399
APPENDIX 7: KEY FINDINGS OF VISUAL DATA BY COUNTRY AND INDUSTRY SECTOR.....	400

APPENDIX 8: KEY FINDINGS OF VISUAL FORMS BY COUNTRY AND INDUSTRY SECTOR.....	403
APPENDIX 9: KEY FINDINGS FROM THE OVERALL PORTRAIT DATA.....	405
APPENDIX 10: PREVIOUS VISUAL STUDIES.....	409
APPENDIX 11: PREVIOUS IC DISCLOSURE STUDIES SUMMARY.....	416

LIST OF TABLES

Table 1.1: Overall visual data summary by country measured by units of occurrence.....	126
Table 1.2: Overall visual data summary by country measured by units of space.....	127
Table 1.3: Overall HIC visual data summary by country by units of occurrence.....	129
Table 1.4: Overall HIC visual data summary by country measured by units of space.....	129
Table 2.1: Overall visual data summary by country and industry sector measured by units of occurrence.....	143
Table 2.2: Overall visual data summary by country and industry sector measured by units of space.....	144
Table 2.3: HIC visual data summary by country and industry sector measured by units of occurrence.....	145
Table 2.4: HIC visual data summary by country \ and industry sector measured by units of space.....	146
Table 3.1: Overall visual data summary by sector measured by units of occurrence.....	177
Table 3.2: Overall visual data summary by sector measured by units of space.....	177
Table 3.3: Overall human intellectual capital visual data summary by sector by units of occurrence.....	179
Table 3.4: Overall human intellectual capital visual data summary by sector by units of space.....	179
Table 4.1: Overall pure pictures with and without captions by country and industry sector measured by units of occurrence.....	192
Table 4.2: Overall pure pictures with and without captions by country and industry sector measured by units of space.....	193
Table 4.3: HIC pure pictures with and without captions by country and industry sector measured by units of occurrence.....	195
Table 4.4: Human intellectual capital pure pictures with and without captions by country and industry sector measured by units of space.....	196
Table 5.1: Overall inserted pictures with and without captions by	

country and industry sector measured by units of occurrence.....	212
Table 5.2: Overall inserted pictures with and without captions by country and industry sector measured in units of space.....	213
Table 5.3: HIC inserted pictures with and without captions by country and industry sector measured by units of occurrence.....	215
Table 5.4: HIC inserted pictures with and without captions by country and industry sector measured by units of space.....	216
Table 6.1: Analysis of overall graphs and charts data by country and industry sector measured by units of occurrence.....	227
Table 6.2: Analysis of overall graphs and charts data by country and industry sector measured by units of space.....	228
Table 6.3: Analysis of HIC graphs and charts data by country and industry sector measured by units of occurrence.....	230
Table 6.4: Analysis of HIC graphs and charts data by country and industry sector measured by units of space.....	231
Table 6.5: Graph/chart into HIC functions in terms of units of occurrence.....	237
Table 6.6: Graph/chart into HIC functions by terms of space.....	237
Table 6.7: Analysis of graph/chart types by HIC functions.....	239
Table 7.1: Analysis of HIC into functions by country and industry sector measured by units of occurrence.....	353
Table 7.2: Analysis of HIC pictures into functions by country and industry sector measured by units of space.....	356
Table 7.3: Analysis of HIC pure pictures into functions by country and industry sector by units of occurrence.....	359
Table 7.4: Analysis of HIC pure pictures into functions by country and industry sector measured by units of space.....	362
Table 7.5: Analysis of HIC inserted pictures into functions by country and industry sector measured by units of counting.....	365
Table 7.6: Analysis of HIC inserted pictures into functions by country and industry sector measured by units of space.....	370
Table 8.1: Analysis of overall portraits by country and by code (physical, dress, interpersonal, spatial).....	254
Table 8.2: Analysis of structural capital (management) portraits by country and by code (physical, dress, interpersonal, spatial).....	375
Table 8.3: Analysis of relationship capital (customers) portraits by country and by code (physical, dress, interpersonal, spatial).....	376
Table 8.4: Analysis of human capital (employees) portraits by country and by code (physical, dress, interpersonal, spatial).....	377

Table 9.1: Banking/Financial Services sector summary of comparative portrait analysis template.....	378
Table 9.1a: Banking/Financial Services structure capital (Management) portrait analysis template.....	379
Table 9.1b: Banking/Financial Services relationship capital (customers) portrait analysis template.....	380
Table 9.1c: Banking/Financial Services human capital (employees) portrait analysis template.....	381
Table 9.2: Logistics sector summary of comparative portrait analysis template.....	382
Table 9.2a: Logistics structural capital (Management) portrait analysis template....	383
Table 9.2b: Logistics relationship capital (customers) portrait analysis template....	384
Table 9.2c: Logistics human capital (employees) portrait analysis template.....	385
Table 9.3: Energy sector summary of comparative portrait analysis template.....	386
Table 9.3a: Energy structure capital (Management) portrait analysis template.....	387
Table 9.3b: Energy relationship capital (customers) portrait analysis template.....	388
Table 9.3c: Energy human capital (employees) portrait analysis template.....	389
Table 9.4: IT/Telecom sector summary of comparative portrait analysis template.....	390
Table 9.4a: IT/Telecom structural capital (Management) portrait analysis template.....	391
Table 9.4b: IT/Telecom relationship capital (customers) portrait analysis template.....	392
Table 9.4c: IT/Telecom human capital (employees) portrait analysis template.....	393
Table 9.5: Retail sector summary of comparative portrait analysis template.....	394
Table 9.5a: Retail structural capital (Management) portrait analysis template.....	396
Table 9.5b: Retail relationship capital (customers) portrait analysis template.....	397
Table 9.5c: Retail human capital (employees) portrait analysis template.....	398

LIST OF FIGURES

Chart 1: Intellectual capital definition.....	53
Chart 2: Visual definition structure.....	80
Chart 3: Picture by linguistic message.....	82
Chart 4: Sample basis.....	121
Graph 1: The measurements of pictures and graphs/charts in the visual communication of UK firms' annual reports.....	131
Graph 2: The proportions of pictures in UK firms' annual reports.....	131
Graph 3: The proportions between pictures and graphs/charts in the visual communication of the China H firms' annual reports.....	132
Graph 4: The proportions between pictures in the China H firms annual reports.....	133
Graph 5: The difference between pictures and graphs/charts in visual communication in the China A firms' annual reports.....	133
Graph 6: The proportions of pictures in the China A firms' annual reports.....	134
Graph 7: The proportions between pictures and graphs/charts of the UK firms in visual space presentation.....	135
Graph 8: The proportions between three kinds of pictures of the UK firms in visual space presentation by No. and percentage.....	135
Graph 9: The proportions of three kinds of pictures between the three country groups by percentage of visual space presentation.....	137
Graph 10: Comparison between HIC and general visual pictures of the UK firms by percentage.....	137
Graph 11: The comparison between HIC pictures between the three country groups.....	139
Graph 12: The proportions between pictures and graphs/charts in HIC visuals of the UK firms.....	140
Graph 13: Proportions of three types of human capital pictures between the three country groups.....	141
Graph 14: Proportions between overall pictures and overall graphs/charts by percentage.....	148
Graph 15: The overall visual ranking of five UK industry sectors.....	149
Graph 16: The comparison of overall graphs/charts and pictures between the five UK industry sectors.....	149

Graph 17: The comparison of the three types of pictures among the five UK industry sectors in units of occurrence.....	151
Graph 18: The ranking of visuals of the five UK industry sectors by average number of visual data units per page.....	152
Graph 19: The ranking of overall visual of the five China H industry sectors in units of occurrence.....	153
Graph 20: The comparison of overall graphs/charts and pictures Among the five China H industry sectors.....	154
Graph 21: The comparison of the three types of pictures between the five China H industry sectors by occurrence.....	155
Graph 22: The proportions of overall visual data measured in space among the three country groups and the five industry sectors	158
Graph 23: The comparison of pictures and graphs/charts between the five industry sector groups in each of the three countries measured in pages.....	160
Graph 24: The comparison of the three kinds of pictures between the five industry sectors in each of the three countries by unit of space.....	162
Graph 25: Differences in overall HIC visuals among the three country groups in units of occurrence.....	164
Graph 26: The comparison between HIC pictures and graphs/charts between the five industry sectors by country in units of occurrence.....	166
Graph 27: The comparison of the three kinds pictures related to HIC among the five sector groups in each of the three countries by occurrence.....	169
Graph 28: The proportions of overall visuals relating to HIC between the five industry sectors and the three country groups by unit of space.....	171
Graph 29: The comparison between over HIC pictures and graphs/charts between the five industry sectors and the three country groups in units of space.....	173
Graph 30: The comparison of the three kinds of over HIC pictures among the five industry sectors and the three country groups in unit of space.....	175
Graph 31: The comparison between pictures and graphs/charts in units of occurrence.....	181
Graph 32: The proportions of the three types of pictures in the visual communication of the five sectors surveyed.....	182
Graph 33: Proportions between pictures and graphs/charts within the five sectors in units of space.....	183
Graph 34: Proportions of pictures in the five sectors in units of space.....	184
Graph 35: The proportions between HIC pictures and graphs/charts by industry sector in units of occurrence.....	185
Graph 36: The proportions among HIC related pictures between the	

five sectors in units of occurrence.....	186
Graph 37: The proportions between HIC pictures and graphs/charts by industry sector in units of space.....	187
Graph 38: The proportions among HIC related pictures between the five sectors in units of space.....	188
Graph 39: The comparison study of the three types of pure pictures among the three groups.....	201
Graph 40: The comparison between the three types of pure pictures among the three groups in units of space.....	204
Graph 41: The proportions among HIC pure pictures with and without captions.....	205
Graph 42: The proportions of HIC pure pictures by industry between the three groups in units of occurrence.....	208
Graph 43: The proportions of the three types of HIC related pure pictures among the three groups in units of space.....	210
Graph 44: The proportions of the three types of inserted pictures among the three groups in units of occurrence.....	219
Graph 45: The proportions among the three types of inserted pictures for the three groups in units of space.....	221
Graph 46: The proportions among the three types of HIC inserted pictures between the three groups in units of occurrence.....	223
Graph 47: The proportions among the three types of HIC related inserted pictures for the three groups by industry in units of space.....	225
Graph 48: The proportions of the seven types of graphs/charts among the three groups by industry in units of occurrence.....	233
Graph 49: The proportions among the different gender categories by percentage of gender portraits production.....	256
Graph 50: The gender portrait distribution gap among the three groups by percentage.....	258
Graph 51: The percentage distribution between different age categories regardless of country and sector.....	259
Graph 52: The proportions among the different age elements by percentage and country.....	261
Graph 53: The ranking of the five dress codes by percentage regardless of sector and country.....	263
Graph 54: The ranking of the three types of body language in portrait by percentage.....	266
Graph 55: The proportions of different spatial categories by percentage.....	269
Graph 56: The male portraits distribution among the five types of	

HIC by percentage.....	273
Graph 57: The female portraits distribution among the five types of HIC by percentage.....	275
Graph 58: The distribution of the three main HIC functions by key age groups.....	276
Graph 59: The distributions of formal dress portraits among the different HIC elements by percentage.....	278
Graph 60: The distribution of casual dress portraits among different HIC elements by percentage.....	279
Graph 61: The proportions of uniform portraits among different HIC elements by percentage.....	280
Graph 62: The distribution of smile portraits among the different HIC elements by percentage.....	282
Graph 63: The distribution of hand gestures portraits among different HIC elements by percentage.....	283
Graph 64: The distribution of eye contact portraits among different HIC elements by percentage.....	284
Graph 65: The distribution of individual portraits and group portraits among different HIC elements by percentage.....	285
Graph 66: The distribution of spatial portraits among different HIC elements by percentage.....	288

LIST OF ABBREVIATIONS

BA:	British Airways
BC:	Bank of China
BG:	British Gas
BV:	Book value
BSC:	Balanced Scorecard
CEO:	Chief Executive Officer
FEO	Financial Executive Officer
FRC:	Financial Reporting Council
FTSE:	Financial Times Stock Exchange
HIC:	Human intellectual capital
HC:	Human capital
HR:	Human resources
IAS:	International Accounting Standards
IASB:	International Accounting Standards Board
IC:	Intellectual capital
ICAS:	Institute of Chartered Accountants of Scotland
ICD:	Intellectual capital disclosure
ICR:	Intellectual capital reporting
IFRS:	International Financial Reporting Standard
IJV:	International joint venture

IPOS:	Initial Public Offerings
IPWC:	Inserted pictures without captions
IPIC:	Inserted pictures with insider captions
IPOC:	Inserted pictures with outside captions
ISO:	International Standards Organization
KM:	Knowledge management
M & S:	Marks & Spencer
MV:	Market value
NGO:	Non-governmental Organizations
NZ:	New Zealand
P & G:	Procter & Gamble
PDF:	Portable Document Format
PLC:	Public Limited Company
PP:	Pure photographs
PNP:	Pure non-photographs
PMP:	Pure mixed pictures
PPC:	Pure photographs with captions
PNPC:	Pure non-photographs with captions
PMPC:	Pure mixed pictures with captions
R & D:	Research and development
RBS:	Royal Bank of Scotland
SMES:	Small and Medium Enterprise

Chapter 1: Introduction

1.1 Background

As a response to the increasing complexity of corporate reports, the UK's Financial Reporting Council (FRC, 2009) sent out a louder than words call for action aimed at reducing this complexity and enhancing corporate reporting relevance. One of the most relevant principles proposed was intended to improve the effectiveness of communication in corporate reports so as to hold the reader's attention. Davis (1989) argued visual presentation could efficiently convey relevant messages and had an instant influence of users' attention accounting communication in a straight way compared to other numerical, tabular or descriptive format and it utilises a visualized language mechanism to clarify and condense today's massive and often perplexing information load (Racine, 2002).

At the same time, there are conspicuous limitations in the traditional accounting communication framework by which information on intangibles is largely neglected, asymmetrical and insufficient. Thus and since intellectual capital (IC) is widely believed to be crucial in corporate value creation (Sveiby, 1988, 1997; Edvinsson and Malone, 1997; Lev, 2001; Bose and Thomas, 2007; Tayles, Pike, and Sofian, 2007; Hsu and Fang, 2009), intellectual capital disclosure (ICD) is getting increasing attention in the accounting communication field. Intellectual capital disclosure is significant to accounting information users, especially to those investors who prefer to

place substantial attention on intangibles-related information for the predetermination of company investment potential and prospects (Mavrinac and Boyle, 1996; Sullivan, 2000; Breton and Taffler, 2001; Lev, 2008). A large number of accounting academics recognise that the most important and fundamental element in value creation is human capital (Barker, 2000; Breton and Taffler, 2001; Davison, 2010, etc.). This thesis is therefore focused on human intellectual capital.

The dramatic changes occurring in the global economic environment have led to closer interconnection and fiercer competition worldwide and, at the same time, have presented both challenges and opportunities. As well as highlighting the need to pay more attention to intellectual capital disclosure, this competition also results in companies having to promote their value through impression management practices. Being the output of a developed Western economy with strong accounting practices, UK corporate annual reports have been shown to have become more sophisticated over the years in their use of visual material and creative design (Lee, 1994; Davison and Skerratt, 2007; Beattie, Dhanani and Jones, 2008).

China's economy keeps on booming and also facing more challenges. Accordingly, the Chinese accounting environment has undergone dramatic changes. Chinese accounting standards have gradually converged with International Accounting Standards (IAS) by means of four sets of accounting regulations (1992, 1998, 2001 and 2006). The general import into China of the accounting standards set by the

International Accounting Standards Board (IASB) has positioned the country more in line with the rest of the world in this field. This has created a new financial reporting environment in which Chinese firms – and especially listed companies – need to deal with new financial reporting principles and regulations. Some firms that list their companies in overseas stock exchanges have even brought their financial reporting exactly in line with the International Financial Reporting Standards (IFRS). To date, no research has been done on the composition of Chinese annual reports and their use of creative design. Additionally, Hong Kong places itself mid-way between China and the UK due to its transitional position which merges UK style economic and political systems and traditional Chinese culture.

1.2 What are the visuals in accounting and why are they important?

Corporate reporting, including ICD, is communicated through numbers, narratives and visuals. The mainstream of academic work concentrates on numbers, with increasing attention placed upon narratives. However, because of its unique power, there is growing awareness of the ‘visual turn’ of accounting communication (Davison and Warren, 2009). There is a bustling field of work on financial graphs, which, more recently, has extended to the consideration of pictures and photographs. This thesis examines graphs/charts and pictures, including photographs.

Unlike narrative presentation, which involves the need for deeper understanding through further reasoning and logical coding, visuals represent a more direct form of

communication. Visuals may include photographs, caricatures, cartoons, logos and films, and can be found in press releases or advertising as well as in various corporate or organizational disclosures. Visualisation relevant to accounting exists in various media and takes various forms that may be two- or three-dimensional, static or dynamic (Davison, 2013). Usually, accounting-related visual communication in corporate annual reporting is embodied in a wide range of visuals, such as pictures (divided into photographs and non-photographs), brands, logos and trademarks, and various graphs and charts, such as bars, pies, lines, circles, diagrams, maps and so on. This visualization may improve the conveyance of the accounting-related message, including both financial and non-financial information. The providers are the various firms or organizations; the receivers are the investors, shareholders and stakeholders. Davison (2013) argued visualisation may assist in moulding users' impressions, for instance, of the accountants' professional identity or of the business leadership.

With the rapid development of technology, visuals are increasingly richer and more diverse. These include, for instance, forms such as legible digital photographs, internet-linked media, IT designed images and even new three-dimensional printed images. The visuals with which this research is concerned are mainly pictures, photographs, graphs and charts.

Visual communication is important because:

- Visual materials not only help to improve the users' understanding, analysis and

absorption of relevant information, but also assist those who prepare the information in analysing large amounts of information and transmitting it to outsiders;

- Visuals have been shown to have greater effectiveness than narratives and numbers with regard to memory and cognition;
- Visualisation can provide relevant framing and impression management to the reception of information; visual media can carry messages that are beyond the capacity of accounting statements and can thus influence decision-making (Davison, 2013).

1.3 Research questions

By means of a comparative study between UK firms and Chinese firms, including both mainland China and Hong Kong, this research aims at investigating how visual presentation is used to communicate aspects linked to human intellectual capital in the intellectual capital disclosure of five industry sectors.

This thesis is the first to undertake an integrated investigation of the visual communication of human intellectual capital (managers, customers and employees) through a comparative study of UK and Chinese firms. It also distinguishes itself by providing a detailed discussion of visual methodology. The research question is broken down into the following component ones:

- Do firms in the UK use more visual communication than those in China?

- What are the comparative total amounts and proportions of visuals used in the annual reports of firms in the UK and China (both mainland and Hong Kong)?
- What is the comparative distribution of visuals between pictures, graphs and charts found in the annual reports of firms in the UK and China (both mainland and Hong Kong)?
- Are visuals used to communicate human intellectual capital in the UK and China?
 - What comparative amounts and proportions of visuals are used to communicate human intellectual capital in the annual reports of firms in the UK and China (both mainland and Hong Kong)?
 - What types of visuals are used to communicate human intellectual capital in the annual reports of firms in the UK and China (both mainland and Hong Kong)?
- Could the comparative differences in the usage of visual data be linked to industry sector rather than to country?
- Is there any difference in the extent of the usage of picture captions (to anchor the meanings of pictures) between country or industry groups?
- What types of human intellectual capital (managers, employees, and customers) are communicated through pictures by country and industry sector?
- What cultural factors are revealed through pictures by country and industry sector, considering the following:
 - Gender and age

- Dress codes
- Interpersonal codes and body language
- Spatial settings

In the Foucauldian spirit of analysis, the research questions are primarily oriented towards the ‘how’ and the ‘what’ (Miller and Rose, 2008).

1.4 Summary contribution/findings of this thesis

This thesis adds new insights to the existing literature on visual communication in corporate annual reports. It uses a theoretical framework of impression management and Barthesian visual semiotics (Barthes, 1982b) extended by portrait analysis following Davison (2010). It conducts a content analysis of the visuals in the corporate reports of 150 companies (50 each from mainland China, Hong Kong and the UK) in five sectors (Banking/Financial Services, Logistics, Energy, IT/Telecom, and Retail). The research examines the overall visual content devoted to intellectual capital disclosure – especially that pertaining to human intellectual capital – and the breakdown between pictures, photographs, graphs and charts. It then analyses the pictures and photographs relating to the human intellectual capital to consider the comparative proportions of managers, employees and customers, together with dimensions such as their gender, age and dress.

It contributes as follows:

- (1) It adds to the work on visual communication in financial reporting by:

- providing an up-to-date analysis of the structure and features of visual communication in UK financial reporting;
- presenting the first analysis of the structure and features of visual communication in Chinese (mainland and Hong Kong) financial reporting;
- adding to the methodological considerations in content analysis through a detailed formulation of definitions and of measurement of visual material;
- conducting a more detailed analysis of the forms of visual communication compared to that found in prior work.

(2) It adds to the handful of studies that have examined the connections between visual communication and intellectual capital disclosure by:

- conducting a comparative study between the UK and China and between five industry sectors;
- considering all visual forms;
- focusing on the human intellectual capital (managers, employees, customers).

(3) It extends the work on the portrayal of people in annual reports by considering cultural dimensions (gender and age, dress, interpersonal codes and spatial settings)

The key findings are that:

(1) there is more visual communication in UK reports than in Chinese ones (Hong

Kong placing itself mid-way), together with a more visual communication of intellectual capital and a greater diversity of visual forms;

(2) all country groups use large proportions of visual material to communicate intellectual capital – especially human intellectual capital – and all country groups use more pictures and photographs than graphs and charts;

(3) the Chinese reports show more photographic portraits of males, older people and formal dress than the UK ones (with Hong Kong occupying the middle ground).

1.5 Organization of this thesis

This thesis is structured into seven chapters plus references and appendices. The next chapter, Chapter 2, presents a literature review consisting, firstly, of a discussion of the prior work on visual communication in accounting and, secondly, of a discussion of the prior work on intellectual capital. Chapter 3 considers the theoretical framework of impression management and Barthesian visual semiotics and goes on to construct a detailed visual methodology for approaching the content analysis of samples of UK and Chinese annual reports. Chapter 4 discusses the findings by country and industry sector for overall visual data and for the subset of intellectual capital data. Chapter 5 further analyses the use of different visual forms (pictures, photographs, graphs and charts) by country and industry sector. Chapter 6 provides a detailed analysis of the portraits of intellectual capital – considering the comparative

proportions of managers, employees and customers – together with dimensions such as their gender, age and dress. Chapter 7 presents the conclusions.

Chapter 2: Literature review

2.1 Introduction

This literature review is divided into two main sections. The first is concerned with visual communication and visual impression management; it then reviews the prior literature in accounting, summarized into four topics: (i) visual impression management and accounting, (ii) visual media in accounting, (iii) the visual representation of intangibles and (iv) the visual representation of people in financial reporting.

The second section critically introduces various theories and definitions of intellectual capital and then reviews and summarises the previous work on intellectual capital disclosure. Two stages of the research are identified, namely: the early stage exploration and the burgeoning stage. Four key types of previous work are identified: (i) IC information deficiency, (ii) IC information distribution and level, (iii) the effects of ICD in market capitalization and (iv) human intellectual capital. Finally, the specific literature associated with the countries being investigated is reviewed, i.e. ICD research on the UK and China.

The final part of this chapter discusses the contributions made by this thesis.

2.2 Visual communication

2.2.1 An introduction to visual communication

According to the Oxford English Dictionary (2011), the word 'visual' is defined as relating to seeing or sight: visual perception, or a picture, piece of film, or display used to illustrate or accompany something. Similarly, the Cambridge Advanced Learner's Dictionary (2011) defines "visual" as "relating to seeing", and as an important communication aid, it is something that you are shown, such as a picture, film or map, in order to help you understand or remember information. Similarly, the Collins English Dictionary (2011) gives the definition of done by or used in seeing; capable of being seen. The above definitions all relate to a kind of perception which is realized and operated through visuals and, since the human capacity to remember visual patterns is superior to memory for text or numerical tabulations, helps to enhance the understanding or memory of relevant information given by preparers (Beattie and Jones, 1992).

Visual communication is the most ancient form of communication (Racine, 2002). Even today, it surrounds people in everyday life and business. It is effected by presenting information through visuals such as photographs, cartoons, drawings, television images, graphs, etc. It is the conveyance of ideas and information in forms that can be read or looked upon. Visual communication usually carries its message more clearly than words do. Frequently, visual communication represents the best method to communicate with the widest range of people. Any information that

absolutely, positively must be communicated effectively will usually be communicated visually (Racine, 2002), which greatly highlights the significance of the visualization of business communication in sharing business intelligence.

2.2.2 Visual impression management

Hooghiemstra (2000, p. 60) defines impression management as a field of study “within social psychology studying how individuals present themselves to others to be perceived favourably.” From this broad perspective, both individuals and organisations can try to bias the information they provide to manipulate the image third parties have of them (Leary and Kowalski, 1990). In the context of accounting, the aim of impression management is to present a self-serving view of corporate and managerial performance (Neu, 1991; Neu et al., 1998). Schlenker (1980) argues impression management serves the basic psychological human need of self-presentation. Impression management helps to construct and maintain organizational legitimacy through the use of symbolic actions (Meyer and Rowan, 1977; Pfeffer and Salancik, 1978; Pfeffer, 1981; Elsbach, 1994; Neu, Warsame and Pedwell, 1998), and the manipulation of presentational formats, such as graphs or pictures (Beattie and Jones, 2000). The conceptualization of visual communication is also greatly underpinned by plenty of previous work (Sikes, 1986; Ewen, 1988; Ginzler, Kramer and Sutton, 1993; Featherstone, 1991; Harvey, 1989; Morgan, 1986). These further address the notion that a company’s management should not only strive to achieve good performance, but is also strongly expected to convey perceptions of

its environmental performance to accounting information users. Sikes (1986) argues that, through the embellishment of the impression management approach, annual reports are used as a tool filled with plenty of images to influence external stakeholders. In other words, images are regarded as business commodities designed to reflect power and authority and aimed at influencing or manipulating corporate stakeholders in a consumer culture.

Sikes' argument is also supported by Ewen (1988), who calls this phenomenon 'style' and argues that "in effect, style is a compensation for substance" (Ewen, 1988, p.103) and that "value is based on aesthetic appeal, rather than intrinsic worth" (Ewen, 1988, p.37). From the perspective of sales, Ewen (1988) regards impression management as a business tool deliberately formed to impress the memory of consumers (Ewen, 1988). Furthermore, in Ewen's perspective, managers are encouraged to be actively involved in image management so as to establish the identity of the corporate personality in the minds of the consumers. Thus, impression management seems to be "a marriage between art and commerce in the context of marketing advertising" (Ewen, 1988, P.41).

This switch from financial information to non-financial information (i.e. visual impression management graphs) used to be employed to improve the presentation of the financial aspects of data. Nowadays, in view of their capacity to communicate beyond financial statements, photographic and non-photographic pictures are greatly

used besides graphs in corporate annual reports to tackle the following aspects: conveying longstanding corporate reputation; conveying impressions of the leadership, the workforce and the corporate projects, reflecting the complexity of non-governmental organizations, communicating the dual engagement in the charitable and corporate sectors and satisfying a greater need to express sentiment, arouse compassion and instil trust (Davison 2002; 2007; 2010). Consequently, visual impression management is effected in a manner that is sympathetic to the company (Beattie, Dhanani and Jones, 2008) and assists in the promotion of perceptions that can be effectively absorbed by a wide range of accounting information users.

2.2.3 Previous visual communication studies in accounting

Visual impression management and accounting

Lee's work (1994) found a conspicuous rise in both the total number and the pictorial pages of the surveyed annual reports and a switch from accounting numbers analysis to non-accounting information. McKinstry (1996) conducted a longitudinal study of Burton plc.'s annual reports of from 1930 to 1994. The work reported a sharp increase in the use of photographs between 1979 and 1994, whereas none had been used before 1979.

Davison and Skerratt (2007) conducted a research based on the 2002 end of year reporting documents of the UK FTSE 100 companies. Significant findings were

uncovered, such as an 81% increase in total report length, compared to Lee (1994), and a 23% picture and 3% graph content. Likewise, the work done by Beattie, Dhanani and Jones (2008) also exposed a sharp increase in total page length, voluntary and narrative information, particularly among large listed companies.

Visual media in accounting

A review of previous studies on visual communication in the accounting field shows that annual reports and annual reviews are the documents to which the highest degree of attention was paid by academic researchers exploring the power of visual media. These earlier works cover the influence of television (Graves et al., 1996), gender dynamics (Benschop and Meihuizen, 2002; Bernardi et al., 2002, 2005), ways of seeing (Preston et al., 1996) and rhetorical framing (Davison, 2008). The issues most examined are graphics, pictures, photographs, portraits of boards of directors or senior management, images and even colours.

With regard to financial graphs, graphic communication is a powerful ‘visual metaphor’ (Wainer, 1996). Graphs are recognized in literature as being used in two fundamental ways: to analyse data and to present/communicate information. It is widely accepted that graphs can help improve the communication of accounting information (Holmes, 1984; Cunningham, 1990; Hussey, 1990). The key advantages of graphic displays and communication can be briefly summarized as: (1) the human capability to remember visual patterns is superior to memory for text or numerical

tabulations, (2) graphs are particularly useful to highlight trends, and (3) graphs serve many distinctive purposes such as data analysis, modelling, theory building and data presentation/communication (Tufte, 1983; Beattie and Jones, 1992; Cleveland, 1993). Previous researches show that the main types of graphs used in the communication of quantitative information are line, bar/column, pie and pictorial. The work by Beattie and Jones (1992 and 2002) shows that, the better they perform, the more companies tend to use financial graphs. Hill and Milner (2003) developed a comprehensive set of guidelines, suggested as a learning tool, which probably improves the effective use of graphical display. So and Smith (2002) conducted an interesting investigation concerning the influence of colour graphics in the decision making process. Their results justified the possibility of colour graphics improving decision making under conditions of low information complexity and limited to female subjects only.

Visual representations of intangibles

Mouritsen, Larsen and Bukh (2001) mention visualization in the discussion of the relation between intellectual capital disclosure and knowledge management. They regard intellectual capital disclosure as a centre of translation in which visual impression management takes on a role for the special mission of translating the relevant intangibles for the benefit of annual report users. A research on the visual communication of intangibles carried out by Davison considers intangibles such as reputation (Davison, 2002), the symbolic of ascension (Davison, 2004), trust in the context of a charity (Davison, 2007), visual branding (Davison, 2010) and the

rhetorical representation and construction of intellectual capital (Davison, 2014).

Davison (2010), on which this thesis draws, considered the portrayal of directors and their associated human intellectual capital. She constructed four sets of codes: physical, dress, interpersonal and spatial.

Husin, Hooper and Olesen (2012) conducted an analysis of intellectual capital disclosure, including both mandatory and voluntary, through the three main forms of presentation by numbers, narrative and visual images in relation to employees by gender/race. They found that about 97% of the overall surveyed images were related to IC, showing how indispensably visual images contribute to the measure of the quality of intellectual capital disclosure, including accounting intangibles.

Steenkamp (2007) examined voluntary intellectual capital reporting (ICR) in the annual reports of New Zealand firms and uncovered the importance of pictures in the investigation of the application of content analysis to voluntary ICR. He showed that 35% of voluntary ICR in the annual reports of NZ firms were disclosed through pictures. 87% of all ICR disclosures made through pictures related to two IC items: employees and brands, with employees representing the larger share. Steenkamp, Hooks and Steward (2010) used a focus group to investigate, by means of both interviews and questionnaires, the understanding and opinions of the annual report preparers who produced the figures and the users who interpreted them within the

company annual report. Their findings showed that both preparers and users brought multiple meanings to the figures. The users were likely to overlook and subjectively perceive more messages than had been intended by the preparers. The most strongly perceived IC items were brands, corporate image building and employees. This concerned external attitudes to ICR pictorial messages, not the discussion of the internal situations of visual communication in IC.

Visual representations of people in financial reporting

The literature of visual representations of people is generally categorized into two groupings, i.e. the investigation and distribution of the portrayal associated with the human capital category and a survey of portraits related to gender and race. The former tends to deal with comparative studies with respect of the differences between different human capital categories – mainly comprising employees, customers, and the board of directors – the latter aims at exploring the trends and the distribution gap in the presentation of portraits with respect to gender and race.

Benschop and Meihuizen (2002) revealed that mostly stereotypical images were used to reinforce the traditional gender division of labour. They concluded that the masculine connotation of financial reports had been replaced by a more diverse representation of gender within organizations. Bernardi, Bean and Weippert (2005) found a higher percentage of minorities on boards and that this diversity was shown in the annual report pictures of corporate boards. Guthey and Jackson (2005) argued that

the CEO portraits and photographs of top management staff represent an important aspect of the corporate image and reputation. Campbell, McPhail and Slack (2009) noted a significant increase in human faces in corporate annual reports. Davison (2010) explored the visual portraits of top management with an emphasis on the photographs of company elites. A portrait analysis framework was developed to analyse how photographs are used to communicate aspects relating to corporate top management.

Previous studies were not only concerned with visuals (pictures and charts), but also involved narrative aspects (words/texts). However, they only employed the unit counting plus the context counting methods. They also did not discuss picture types, definitions and measurement, and failed to articulate how to set rules for the detailed counting of the different types of pictures, which is an issue and a challenge that must be faced when counting pictures and graphs that had also not been mentioned in any other previous visual literature. This is one way in which this thesis distinguishes itself from previous work: it explicitly discusses and articulates the specific methodological issues in detail and in depth.

Bujaki and McConomy (2010a, 2010b) conducted two investigations on portraits by employing a quantitative content analysis approach. One only investigated the portraits of women in Canadian corporate annual reports; the other surveyed the photographs of both women and men and explored gender interactions in Canadian

corporate annual reports. Similar results were found: women were notably under-represented, appeared to be less powerful in mixed gender photographs and, compared to men, made up a far smaller proportion of the top management, e.g. the board of directors.

Another similar investigation was conducted by Duff (2011) to explore photographs of gender and race in 19 annual reviews of the four biggest UK accounting firms. The findings revealed that women and people of colour were under-represented and appeared less in corporate annual reports. However, in comparison to previous studies, their portrayal had improved and the effect was less marked, which indicated that women and people of colour were increasingly receiving attention. Likewise, Kuasirikun (2011) investigated portrayal by gender in the annual reports of Thai firms. The results showed that, compared to those of men, women were generally portrayed in subsidiary roles.

Effects of culture on accounting visual communication

According to Hofstede, culture was defined as: “the collective programming of the mind which distinguishes the members of one human group from another” (Hofstede, 1980, p. 25). House et al. (2004) argued that culture consists of “shared motives, values, beliefs, identities, and interpretations or meanings of significant events that result from common experiences of members of collectives and are transmitted across age generations” (2004, p. 57). Many studies have considered direct influences of culture on accounting (Braun and Rodriguez, 2008; Chenhall, 2003; Harrison and

McKinnon, 1999) as culture is typically absorbed through the process of socialization and is constructed in people's long-term memory (Peterson and Wood, 2008). Thus, it is publically shared and omnipresent; consequently culture has pervasive impacts on both individual and institutions, which certainly involves national accounting which also includes ample financial accounting reporting and accounting communication produced by various firms and organizations. Cieslewicz (2014) explored the relationship between national economic culture, institutions, and accounting, and affirmed the direct effects of national economic culture on national accounting. Chand (2012) conducted an empirical study that greatly support the view that both ethnic culture and organizational culture have a significant effect on the manner in which accountants within a country interpret uncertainty expressions contained in the IFRS. The results also reveal that organizational culture has a greater effect on the judgments of accountants than ethnic culture.

Hofstede (1980) and Hofstede and Bond (1988) identified five societal values that can be used to describe a country's national culture: Uncertainty Avoidance, Individualism, Power Distance, Masculinity and Confucian Dynamism referred to as Long-term Orientation. Gray (1988) identified four accounting values that can be used to describe a country's accounting subculture: conservatism, secrecy, professionalism and uniformity. Gray argued that these accounting values influence the development of countries' financial reporting practices. These views greatly provide important theoretical insights and framework to underpin, understand, and interpret the

structures and features in the portrait study as the aspect of accounting intangibles visual communication in this thesis.

The previous visual literature is also summed up in Appendix 10.

2.3 Intellectual capital

2.3.1 An introduction to intellectual capital

There is still no theoretical consensus with regard to the definition of the concept of IC; thus, so far, the concept of IC has variously and dynamically evolved over the last few decades. This could be due to it being often viewed from various perspectives across different academic fields. At the same time, the study of ICD in the field of accounting communication practices began to escalate from the mid-1990s, with the rapid development of IC in academic research caused by the increasing awareness of the significant impact and importance of corporate soft power for a company's sustainable prosperity in an increasingly harsh competitive environment worldwide.

According to Senge (1990), the learning organization theory is originally relevant to the notion of IC as it expands its capacity to create its future; thence, IC may be associated with the capacity and capability of an organization. The flaw in this definition is that it is too general and obscure. Reich (1991, p.105) viewed IC as “the value of the talented people”. Conversely, Stewart (1997) defined IC as the sum of everything that everyone in a company knows which gives it a competitive edge, which indicates that the locus of knowledge is collective. It is not clear what the

summation means, or whether what anyone knows is shared with the others or not. The accounting-based opinion defines IC as the difference between market value (MV) and financial capital/book value (BV), which is used as a proxy for the firm's IC, i.e. $IC = MV - BV$. However, the definition seems to be so broad and general plus the uncertainty of the market value that it lacks the capability of being used to measure specific accounting categories and for the recognition and identification of individual elements of IC (Striukova, Unerman, and Guthrie, 2008).

Alternatively, viewed from the perspective of the relationship between IC and knowledge, IC is also defined as the intellectual material – knowledge, information, intellectual property, experience – that can be put to use to create wealth (Stewart, 1997) and as the resource of knowledge, in the form of employees, customers, processes or technology, through which a company can mobilize its value creation processes. Similarly, Foucault (1979, 1980) regarded IC as power and argued there was a strong relationship of interdependence and interaction between knowledge and power (Foucault, 1980; Lyotard, 1984).

These similar definitions equate IC with KM (Gates, 1999; Sveiby, 1997). However, many authors disagreed with this. For example, Lynn (1999) and Sanchez et al. (2000) argued that the most important difference between IC management and knowledge management is that IC management emphasizes a value-added dimension, which knowledge management necessarily does not address. This thesis argues that

this concept likely causes an issue by which firms could be incapable of keeping practice and implementation consistent. Indeed, this equal linkage of IC and knowledge management indicates that, whereas an organization may be able to use knowledge to generate revenue, such usage may cause the intellectual material to become ossified or obsolete.

In the relation between IC and intangibles, Guthrie and Petty (2000) argued that intangibles are a sub-set of IC. Conversely, Rylander et al. (2000), Meritum (2002) and Lev (2001) all explicitly held the viewpoint that the terms ‘intangibles’ and ‘IC’ are frequently used synonymously. According to Lev (2001), three academic terms are widely used to refer to the same thing: a non-physical claim to future benefits/valuation in different academic fields; i.e. ‘intangible assets’ in accounting literature, ‘knowledge assets’ by economists, and ‘IC’ in management and legal literature. However, this thesis also argues that IC should be viewed as a wider and more general concept, as opposed to knowledge and intangible assets, the former being only related to specific know-how and information and the latter being only associated with the accounting field. However, IC should reach far beyond those seemingly similar concepts; in fact, it is self-evidently associated to any relevant human intelligence factors and conditions and, specifically, it is a more internal comprehensive power – owned by an organization, a community, a society or a nation – that is more likely to represent a capability to integrate and optimize both resource and system. Equating IC with KM creates confusion; KM should be regarded as being

just a part of IC. Furthermore, viewing IC as mere stock-taking of intangible assets degrades its concept.

Although the above discussions on the concept of IC provide various important academic insights into its definition, this thesis attempts to explore and develop such a definition by employing a dictionary approach to justify the concept of IC in a denotative conceptual framework to support this research in its key notions. Relegated to and coded from the human being system level, it could mainly involve ideologies, systems, customs, cultures, personalities, beliefs, mechanisms, ways of thinking and psychology. Furthermore, it could be embodied in knowledge, systems, skills, techniques and technology, rationale and theory, rights/licenses, creative ideas/concepts, innovation/creation. From a business or politics perspective, it is perhaps degraded to the level of a concept similar to the well-known 'soft power' created by Joseph Nye (2004), which is the ability to attract and induce cooperation, rather than coerce, and a means to be used to achieve superior integration and optimization of the available and potential interior resources of an organization or economy. IC, a key internal engine for the sustainability of various organizations, is characterized by and is in relation to the intangible assets in the accounting field. Viewed from an accounting perspective, this definition of IC can be abstracted as a framework made up of five key elements: intellect, capital, knowledge, intangible and asset. Three English dictionaries are used to develop an understanding of these five key notions.

“Intellect” is defined as the faculty of reasoning and understanding objectively, relating to your ability to think and understand things, especially complicated ideas (Cambridge English Dictionary 2011), and the ability to understand, think, and reason (Collins English Dictionary 2011). To sum up the above definitions of ‘intellect’, the term is associated with the capability and capacity of think, understand and reason objectively.

The Collins English Dictionary (2011) defines “capital” as the value of the total shares that a company can issue; the total wealth owned or used in business by an individual or group; wealth used to produce more wealth by investment. This, in turn, indicates that the term “capital” could be relevant to concepts such as wealth, value and stock (of accumulated goods, either material or immaterial).

According to the Oxford English Dictionary (2011), “knowledge” is defined as facts, information, and skills acquired through experience or education, or awareness or familiarity gained by experience a fact or situation. It is also defined as the understanding of or information about a subject which a person gets by experience or study (Cambridge English Dictionary 2011). It is also alternatively defined as (1) the facts or experiences known by a person or group of people; (2) the state of knowing; (3) specific information about a subject. Hence, ‘knowledge’ is associated with facts, information, skills, awareness, familiarity and know-how.

The definition of “intangible” is given in the Oxford English Dictionary (2011) as something unable to be touched; not having physical presence, (of an asset or benefit) not constituting or represented by a physical object and of a value not precisely measurable and as something difficult for the mind to grasp; intangible ideas; and incapable of being felt by touch. ‘Intangible’ can here be briefly described as an incapable of being felt, immaterial, abstract and vague, impalpable and even of no liquidable value.

Intangibles are strongly believed to be the major drivers of company growth. As pointed out by Hand and Lev (2003) and Zambon (2003), the intangibles movement highlights the limits of the traditional external accounting theoretical approach based upon transactions (historical cost principle). Lev (2002) argued that the vast magnitude and impact of intangibles brings a new creative awareness to firms worldwide today and even in the future. The definition and implementation of intellectual capital (IC) statements in various organizations is an active response to this rising hot issue. Lev and Zambon (2003) argued that the concept of IC mainly focus on intangibles, aims to summarize the value of an organization’s capabilities and competencies, representing them as a productive factor with a value that can be recognized. IC statements assist in forcing a company to recognize both its implicit assets and the different links between the various types of capital through the fundamental function of self-analysis. The company therefore can more easily and

consciously define and evaluate its internal and external growth opportunities. Thus, the phases of the production process in which intangible assets are particularly present (research, organization and marketing) become essential to both managers and investors.

International Accounting Standard 38 on intangible assets provides a conceptual framework to define and identify the intangibles issue. According to IAS 38, an intangible is defined as an identifiable non-monetary asset without physical substance.

The principles by which an intangible can be identified are as follows:

An asset is identifiable if it either:

- (a) is separable, i.e. it is possible to separate or divide it from the entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, identifiable asset or liability, regardless of whether the entity intends to do so;
- (b) arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.
- (c) is controlled by an entity as a result of past events; and
- (d) future economic benefits are expected to flow to the entity from it.

Intangible resources can include: scientific or technical knowledge, design and implementation of new processes or systems, licenses, intellectual property, market

knowledge and trademarks (including brand names and publishing titles). Common examples of items encompassed by these broad headings are computer software, patents, copyrights, motion picture films, customer lists, mortgage servicing rights, fishing licenses, import quotas, franchises, customer or supplier relationships, customer loyalty, market shares and marketing rights (IAS 38, 2009).

The Oxford English Dictionary (2011) defines “asset” as a useful or valuable thing or person. Similarly, the Cambridge English Dictionary defines the term as a useful or valuable quality, skill or person, and the Collins English Dictionary (2011) defines it as a thing or person that is valuable or useful, or any property owned by a person or company. In turn, the term “asset” could, in a broad sense, not only link to a useful or valuable and tangible thing/person, but also refer to any wealthy, potential, skilful, and value-added insubstantial thing, such as talent, right, advantage, knowledge, or technology. At this point and from a business perspective, ‘asset’ nearly equals “capital”. Thus, the terms “intellectual capital” and “intangible assets” should be synonymous and, from an accounting perspective, both should be used interchangeably. The definition of IC developed in this research can be summarized visually in Chart 2.

Alternatively, the concept of IC can be similarly given by the equation of intellectual capital = human capital + internal (structural) capital + external (relational) capital, which was crafted by MERITUM (2002) which employed researchers from six

countries, involved a number of different studies and presented its conclusions in the 2002 text of Guidelines for Managing and Reporting on Intangibles.

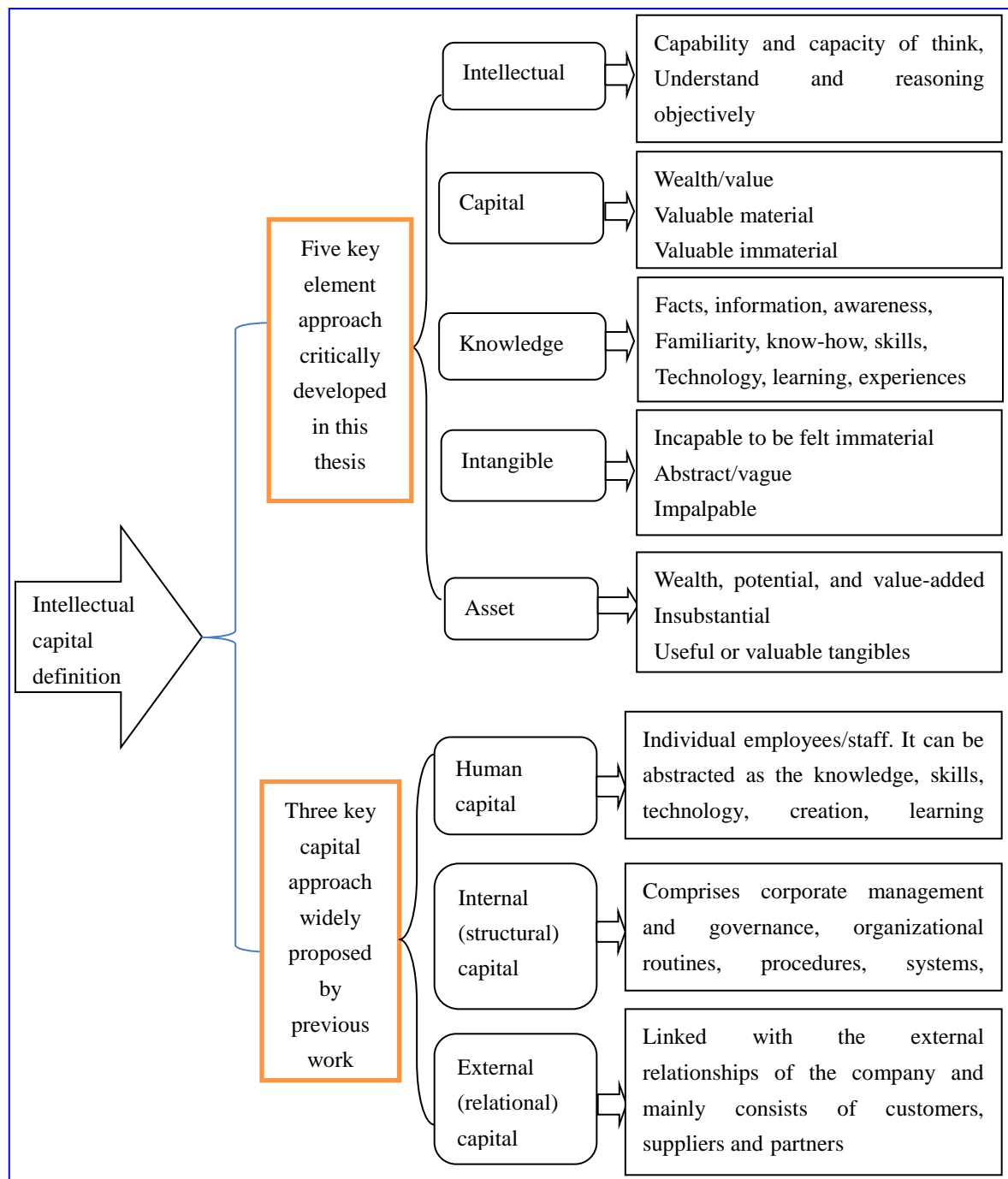
The human capital is mainly related to individual employees/staff. It can be abstracted as the knowledge, skills, technology, creation, learning, experience and abilities, and leaderships of people as well as the activities aimed at producing or improving these resources. Human capital (HC) takes on a number of different names in the previous literature; i.e. “human assets” (Likert, 1967), “human resources” (Brummet et al., 1968; Hekimian and Jones, 1967; Elias, 1972), “cultural capital” (Thompson, 1998), “worth of employees” (Roslender and Dyson, 1992) and “human capital” (Liebowitz and Wright, 1999). HC is vital as it is the most relevant component of IC. It is widely recognized that HC continues to grow in importance with the rise of intangibles in the corporate value chain, which are regarded, in general, as invaluable assets in contemporary knowledge-driven economies (Edvinsson and Sullivan, 1996; Graham and Pizzo, 1998; Backhuijs et al., 1999; Bontis, 2003).

The structural capital is a firm’s source of knowledge and comprises corporate management and governance, organizational routines, procedures, systems, cultures and databases. Some of these may be legally protected and thus become intellectual property rights. The relational capital is the knowledge that is linked with the external relationships of the company and mainly consists of customers, suppliers and partners. In addition, part of the human and structural capital which involves a company’s

relations with its stakeholders (investors, creditors, customers, suppliers, etc.) is comprised in the relational capital plus the perceptions that the latter hold of the company.

The above argued and proposed intellectual capital definition is visually summarized in following Chart 2.

Chart 1: Intellectual capital definition



This thesis intends to develop a wider conceptual framework, described as human intellectual capital, to perform a deeper analysis of the effect of human intelligence factors on today's business. Unlike previous theoretical frameworks, human

intellectual capital is defined in this research as the comprehensive accumulation and combination of the total capabilities and competencies possessed by a firm or an organization. Internally, this mainly refers to management attributes and employee traits. The former being characterized by leadership levels, strategic levels, and management related knowledge, skills, technical abilities, business culture liberality and foresight; the latter mainly referring to the educational levels, skill familiarity, experiences, intelligence, attitudes, reliability, commitment, aptitudes, imagination and creativity, the desire to share information, participation, independence, cooperation and concentration on the goals of the organization. Externally, it mainly refers to customer capital, made up of satisfaction, loyalty, quality, competitiveness, branding, goodwill, reputation and so on.

Thus, human intellectual capital consists of three key categories, namely: top management, employees/staff and customers. The research template is designed based upon this conceptual framework, aided by visual portraiture theory (Davison, 2010).

Therefore, this research does not only focus upon the visual communication aspect of the human capital (employees), but also extends to the structural capital (management and governance, such as the board of directors and senior governance committee members), the relational capital (customers) and, additionally, the mixed human capital (a mixture of employees, managers and customers).

As a vital value-added source of a firm's future benefits, IC is a significant theme in different disciplines and is viewed from different perspectives. The literature review shows that there are eight discipline fields in which IC is playing an increasing role: economics, strategic management, finance, accounting, reporting and disclosure, human resources, marketing and communication. According to Marr et al (2003), the roles that IC plays can be classified into three main categories:

- (1) The "Strategy management" category, which comprises the roles of managing strategy formulation, strategy execution, and strategic diversification and expansion;
- (2) "Influencing behaviour", which comprises the roles of monitoring progress and rewarding or compensating behaviour;
- (3) "External validation", which comprises the roles of internal and external communication, benchmarking and compliance with regulations. This category relates to the IC communication issue that is the topic this research is concerned with from an accounting communication perspective.

Thus, it is necessary for IC reporting/disclosures/statements to emerge to produce and convey company-specific information relevant to financial analysts. Consequently, many previous researches have looked at the issue of ICD and provided a broad range of findings and insights in the academic literature.

2.3.2 Previous studies on intellectual capital disclosure

IC reporting research can be traced back to the 1970s. This thesis identifies two stages of IC disclosure development, i.e. the early exploration stage, between the 1970s and the 1990s, and the burgeoning period which began from the year 2000. The former was a primary process of exploration, producing a large corpus of popular and practitioner-oriented literature in the mid-1990s; the latter showed a greatly swelling progress, during which abundant researches were conducted to investigate, from an accounting perspective, the ICD of various firms worldwide.

Early stage exploration

The precedent of the IC report was the so-called “value added statement”, which was produced by some UK and continental European companies during the 1970s. It was very simple and did not cover all the IC concepts. Scandinavian countries are often noted for their practices with respect to disclosure of intellectual capital; in fact, the first intellectual capital report, with a one-page section, was published in the 1993 Annual Report by Skandia, the Swedish insurance and financial services company.

In the 1990s, IC studies swelled due to the increasing awareness of the importance of intellectual capital as a major driver of long-term value creation for organizations. A number of relevant work on ICD was published; for example, Brooking (1996), Edvinsson and Malone (1997), Roos et al. (1997), Stewart (1997) and Sveiby (1997), together with Edvinsson’s seminal 1997 paper on Skandia AFS’s pioneering work in intellectual capital management and Flamholtz’s human resource accounting (1999),

which bears some resemblance to the concept and measures of IC.

In the vanguard of this development were researchers taking part in a programme funded by the Danish Agency; the Danish IC reports were first published in 1998 and continue to be to date (DATI, 2000; MITR, 2002). Another important initiative was sponsored by the Danish Trade and Industry Development Council that, in 1997, developed the Project Intellectual Report, which was then re-proposed in 2000. Four categories of indicators were identified for the measurement of IC: human resources, customers, technology and processes. What those researchers recommended was a narrative approach to intellectual capital accounting and reporting, using what are termed as Intellectual Capital Statements. A similar approach was also recommended in the final report of the Meritum Research Group. The Intellectual Capital Report combines three elements: the vision of the firms, the summary of intangible resources and activities, and the system of indicators (Meritum, 2002). In Danish government publications (DATI, 2000; MITR, 2002) and complementary academic papers by Bukh et al. (2001) and Mouritsen et al. (2001), intellectual capital is treated as a competing technology of management.

Thus, although the early work of this period developed the IC theoretical concept framework, leading to the production of IC disclosure to communicate the intangibles of business communication, it is flawed for being unsystematic and of little relevance.

Besides, narrative is used as the dominant approach to the communication of

IC/intangibles notions and contents. Rarely do the papers pay attention to the role of visual communication in ICD.

Burgeoning stage

The IC disclosure studies from this period can be mainly summarized into four categories for the purposes of this research.

(i) IC information deficiency

Many researchers uncovered great deficiencies in corporate IC information in company documents (annual reports, annual reviews, and other news and edge reporting). Guthrie and Petty (2000) carried out a study on 20 public listed companies in Australia. They found that, despite a general awareness of the importance of IC (Williams, 2001) and of its role in ensuring long-term organizational success, few companies took significant initiatives to measure and report it. A general framework for measuring and reporting IC was also lacking. Brennan (2001) performed a similar research in Ireland. The study surveyed the annual 1999 reports of 11 companies and also found that IC was rarely reported. The study by Roslender and Fincham (2004) showed a clear situation with regard to IC: countries such as Canada, Australia, South Africa and European nations – including the UK, where the study was carried out – had begun to realize the role of IC in the new business world, however, they had not applied IC in their factual accounting systems, possibly due to the lack of a scientific and practical model and framework. A significant research on IC disclosure

conducted by Vergauwen and Van Alem (2005) in the Netherlands, France and Germany indicated that voluntary IC disclosure significantly differs between these countries, furthermore, this difference can be explained by country-specific regulation and auditor conservatism.

Finally, several reports (e.g. Eustace, 2001; GRI, 2002; Upton, 2001; Blair and Wallman, 2001) called for the improved disclosure of intangibles and for the development of new reporting models. This challenge has been addressed through attempts to develop sustainability reporting guidelines on economic, environmental and social performance (GRI, 2002), 1990s methodologies like the balanced scorecard (Kaplan and Norton, 1992, 1993, 1997), the service-profit-chain (Heskett et al., 1997), the intangible asset monitor (Sveiby, 1997) and through specific guidelines for reporting of IC and intangibles (Meritum, 2002; DMSTI, 2003). Two guidelines have been developed for IC disclosure. One is The Meritum guideline, which is divided into three sections. In the first section and with respect to the conceptual framework, the basic concepts like intangible resources, IC, human capital, structural capital and relational capital are defined. The second section concerns the management of intangibles. The third and last section contains an IC report model. This guideline also lists the important elements that should theoretically be included in an IC report. These include three key aspects: (1) a firm's vision; (2) a summary of its intangible researches and activities, and (3) a system of indicators. The other is a Danish guideline (DATI, 2000) that was developed on the basis of the experiences of 17

Danish firms. The Danish guideline focused on the preparation of IC statements for external publication.

(ii) IC information distribution and level

Recent IC researchers looked more into IC information distribution and level. Although Dumay and Tull (2007) examined whether or not the disclosure of the companies' intellectual capital to external stakeholders had an influence on their share prices and found that the market was most responsive to the disclosure of internal capital elements, whereas most researches came up with the interesting finding of ICD being very imbalanced with regard to the three main components of IC: greater focus and more attention being given to external (relational/customer) capital, followed by internal and then by human capital. It was also found that larger companies tend to produce more and higher levels of IC information (Garcia-Meca, Parra, Larran and Martinez, 2005; White, Lee and Tower, 2007; Gowthorpe, Kasperskaya and Perramon, 2008; Striukova, Unerman and Guthrie, 2008; Guthrie, Steane and Farnet, 2009; Erickson and Rotherg, 2009). It is worth mentioning the research by Striukova, Unerman and Guthrie (2008), who conducted a ICD study that dug further and covered a far broader range of corporate reporting of ICD in UK firms and contributed the meaningful findings that disclosure relating to customers and distribution channels is most frequent, larger companies disclose more, the Retail sector disclosed the most, WebPages contain the most IC disclosure, 80 per cent of IC disclosure is qualitative, and most quantitative disclosure is non-monetary. Campbell

and Rahman (2010) also indicated that the changing patterns of ICR tend to increase the complexity of the messages being conveyed by voluntary reporting.

(iii) Effects of ICD on market capitalization

Several later researches focused upon the relationship between ICD and market capital. Some uncovered a positive association between underpricing and the extent of ICD and that IPOs were heavily reliant on IC resources (Nielsen, Bukh, Mouritsen, Johansen and Gormsen, 2006; Singh, Mitchell and Zahn, 2007; Inderpal, Zahn and Mitchell, 2008). A study by Luo, Koput and Powell (2009) showed that the ratio of scientists (human capital) was actively associated with R&D alliance partners and had a positive relationship with finance alliance partners. Similarly, Dumay and Tull (2007) found that ICD in price-sensitive corporate announcements could have an effect on the cumulative abnormal return of a firm's share price.

(iv) Human intellectual capital

Edvinsson and Malone (1997) stated that human capital, differently from structural capital that can be owned by an organization, should ideally be managed effectively to increase the competitive advantage. Conversely, Lynn (1998b) also recognized the vital importance of effectively managing IC; however, he argued that "a major challenge in managing IC is to transform human and relational capital into more permanent structural capital" (Lynn, 1998b, p.11). Compared to Edvinsson, Lynn provided a more managerial insight. This thesis agrees with the latter, and further

argues that not only can human capital be owned by an organization, but also that it should be possible to transform it within the three ICs as it can be experienced, trained, learned, inherited, acquired, managed, and even stored with the assistance of modern information technology. Consequently, it can be owned by an organization although it is dynamic and in liquidity. Since human capital, a kind of soft asset, should be owned by an organization, thereby, it is extremely stressed and impressed by the communication and valuation of accounting intangibles. Accounting academics generally admit the dominant role that the human factor plays among the IC components (Roslender and Fincham, 2001).

Numerous researchers were concerned with the role played by human capital in companies from the point of view of accounting (Lev and Schwartz, 1971; Lev, 2004). Some of them paid more attention to the relevance of HC to company performance (Skaggs and Youndt, 2004; Gong, Shenkar, Luo and Nyaw, 2005; Yang and Lin, 2009). Gates and Langevin (2010) found that the more advanced a company was in the development of HCM, the better it performed. Young, Su, Fang S.C. and Fang S. R. (2009) analysis also revealed the vital role of value –creating efficiency of HC in the promotion of performance. Several studies stressed the significance of the employee (Snell, James and Dean, 1992; Lopez-Bazo and Moreno, 2008) when conducting a study of human capital reporting in a developing nation and found that featuring employee performance was the most significant HC attribute found in the annual report. Some looked at the relationship between HC and corporate value

creation. A research carried out by Young, Su, Fang S.C. and Fang S.R. (2009) in eight Asian economies showed that the influence of human capital was the main factor creating value for banks. Finally, others even explored the cultural factors in the HC of organizations. A study by Leung and Kwong (2003) found that cultural factors affected the understanding between the Chinese and their foreign partners, who often disagreed on what constituted legitimate justice and the criteria based upon which rules were applied.

The above review shows that, despite the many researchers devoting themselves to investigate IC information distribution and level, there has been no focus on how IC/intangibles information is communicated by visual materials.

2.3.3. Intellectual capital disclosure research in the UK

The UK is one of a handful of countries in which IC and ICD are paid great attention and have made great progress. A relevant precedent of the IC report was the so-called “value added statement”, which was produced in the UK in the 1970s. Later, more reports were published to illustrate the development of UK thinking on intellectual capital. Some studies concerned themselves with the situation and relevance of ICD and intangibles. By means of a longitudinal analysis of the IC disclosure in the annual reports of 31 randomly selected UK companies listed in the FTSE 100 index over the period 1996-2000, Williams (2001) found a significant rise in the amount of IC disclosure. Collier (2001) discussed the role played by intellectual capital in the UK’s

policing, and distinguished intellectual capital (as a stock) from intellectual capacity. Vance (2001) based his findings on a number of interviews with analysts and fund managers in London and with the finance directors of a number of major corporations. The findings showed that the corporate world was more interested than the City in the management and valuation of intangible assets. Verganwen, Bollen and Oirbans (2007) studied the relationship between ICD and the relevance of intangibles as a value driver. They found that there was a significant positive relationship between structural capital possession and ICD.

Some studies examined the role of human capital. Holland (2001) explored the role that private information on corporate intangibles played in the private corporate governance of financial institutions and concluded that qualitative factors, especially board and top management qualities, were central to corporate governance and more proactive forms of intervention. Similarly, a research by Roselender and Fincham (2001) substantially confirmed the relevance of IC – such as human assets, human resources, and human worth – as a key reporting agency within an organization. However, a study by Roselender and Fincham (2004) funded by the Institute of Chartered Accountants of Scotland (ICAS) provided a field study perspective of great insufficiency in the application of IC in the factual accounting systems, possibly due to the lack of a scientific and practical model and framework, in Canada, Australia, South Africa and the European nations. Moreover, little support existed for the introduction of any statutory formal reporting system for intangibles.

In addition, Beattie and Thomson (2007) discussed the use of content analysis to investigate ICD. They argued that the IC concept could be better understood under conditions of increased transparency. Striukova, Unerman and Guthrie (2008) conducted an investigation covering a broader range of content with regard to corporate ICD in UK firms and found that the annual reports were not a good proxy for the proportion of disclosure across all the corporate reports analysed in the study. Furthermore, they found that relational capital (customers) was more frequently communicated and there was a direct ratio between company size and IC volume, in other words: the bigger the firm, the more IC was reported. Campbell and Rahman (2010) conducted a longitudinal study of ICR in Marks & Spencer's annual reports between 1978 and 2008. They concluded that there had been a wider change in the market for information among investors and other stakeholders. Furthermore, the changing patterns of ICR increased the complexity of the messages being conveyed in voluntary reporting.

2.3.4 Intellectual capital disclosure research in China

Although published papers on corporate ICD in China are currently too few, the rapid development of the Chinese economy is causing increased attention to be placed upon IC. Some Chinese firms are currently determined to present IC information through ICD in their official corporate annual report to enhance their intangibles. Gong, Luo, and Nyaw (2005) explored the impact of two human resources issues generated by the

multi-system nature of international joint venture (IJV) (i.e. within the venture subsystem — the IJV HR Set and the relational/interface HR set) upon venture performance. Data was collected from a sample of 265 Chinese-based IJVs. They disclosed that the relational/interface HR set actually had a positive performance impact at the venture subsystem level. By means of a case study, Wu (2005) explored the integration between the Balanced Scorecard (BSC) and intellectual capital. The research ascertained that the BSC can lead to the creation, formation and measurement of IC and promote IC reporting. Hsu and Fang (2009) revealed that human capital and relational capital actually improve new product development and that the relational capital of Taiwanese SMEs is marginally less than that of large companies. A research by Yang and Lin (2009) on the issue of whether IC mediates the relationship between HRM and organizational performance confirmed the mediation role played by IC in explaining the effect of HRM practices on organizational performance. Tai and Chen (2009) explored a new evaluation model for IC in a computing approach by using a 2-tuple fuzzy linguistic approach with a multiple criteria decision making method. Their findings showed that it is feasible to effectively manipulate the processes of evaluation integration and avoid information loss.

The previous ICD studies can be summarized through in Appendix 11.

2.4 Conclusions and contributions of this thesis

The above literature review concerns two fields of knowledge review, i.e. visual communication and intellectual capital, especially both of them in relation to accounting intangibles. Visual communication review discussed the definition and features of both visual and impression management and those pertaining to accounting communication issues. The effects of culture on the accounting including accounting intangibles visual communication are reviewed. IC literature review illustrates the existing ICD research and covers a wide range of specific issues such as IC definition, role, measurement, evaluation, management, trends, distribution, relationship between ICD and corporate performance, its actual impact and application in a business context, etc. ICDs studies, including published papers, are more advanced in developed than in developing nations. Chinese companies are increasingly paying significant attention to ICD. With regard to human portrayals in pictures and photographs, few research papers have looked at portraits of employees and board directors in the context of gender and diversity studies. Steenkamp (2007) considered pictures related to employees published in the annual reports of New Zealand firms. Bujaki and McConomy (2010) investigated the Canadian photographs of directors in the gender studies context. Duff (2011) conducted a similar study on UK firms; Kuasirikun (2011) surveyed employees in Thailand.

The relevant work above is in part associated with HIC; namely, the issues they studied were only concerned with some aspect of human capital, such as employees,

portraits of CEO boards, gender or race. It is evident that few researchers have, on the whole, looked into the visual communication of the three key human intellectual capitals (management, customers and employees) in accounting communication. The above literature review also shows that there is little existing work on the visual aspects of Chinese annual reports.

This thesis firstly extends work by Lee (1994), Davison and Skerratt (2007) and Beattie, Dhanani and Jones (2008) on visual impression management in accounting associated with intangibles and non-financial information. In this respect, it adds to the work on visual communication in financial reporting by:

- providing an up-to-date analysis of the structure and features of visual communication in UK financial reporting;
- producing the first analysis of the structure and features of visual communication in Chinese (mainland and Hong Kong) financial reporting;
- adding to methodological considerations in content analysis through the detailed formulation of definitions and of measurement of visual material;
- conducting a more detailed analysis, compared to prior work, of the forms of visual communication.

Secondly, this research adds to the work on the disclosure of intellectual capital. It adds to a handful of studies, for example, by Mouritsen et al (2001), Davison (2002, 2004, 2007, 2008, 2009, 2010, 2014), Steenkamp (2007), Steenkamp et al (2010),

Husin, Hooper and Olesen (2012). It does this by:

- conducting a comparative study between the UK and China and between five industry sectors;
- considering all visual forms;
- focusing on human intellectual capital (managers, employees, customers);
- considering cultural dimensions (gender and age, dress, interpersonal codes, spatial settings).

Finally, it contributes to the research on the portrayal of people in annual reports by Benschop and Meihuizen (2002), Campbell, McPhail and Slack (2009), Bernardi, Bean and Weippert (2005), Guthey and Jackson (2005), Bujaki and McConomy (2010), Duff (2011), and Kuasirikun (2011) and it extends the work on the portrayal of people in annual reports by considering cultural dimensions (gender and age, dress, interpersonal codes, spatial settings).

Chapter 3: Theory and methodology

3.1 Research strategy

This research is interdisciplinary, as it links two fields of knowledge (i.e. visual theory and accounting-intangible assets). The purpose of this research is to investigate how, what and why visual material is used in the annual reports of UK and Chinese firms to communicate human intellectual capital. This is achieved in three stages: (1) documentation and analysis of the total amounts and types of visual material, (2) documentation and analysis of the proportions of visual material used to communicate all types of intellectual capital, (3) documentation and analysis of the portrayal of human intellectual capital.

The method employed in this research is visual content analysis. “Visual content analysis is an empirically-driven method that has been used by a number of researchers. Typically such analyses count and/or code pictures and photographs” (Davison, 2013, p10). Content analysis has been used to examine photographs in annual reports in the context of gender and diversity studies (for example, Benschop and Meihuizen 2002; Steenkamp, Hooks and Steward, 2010).

However, “content analysis is often poorly supported by theory” (Davison, 2013, p10). Theoretical and interpretive approaches have been used in visual studies in accounting (for example, Preston and Young 2000; Mouritsen et al. 2001; Jeacle 2008). These are

useful in focusing attention on analytical and interpretive approaches, rather than on data collection and in building interdisciplinary bridges with a wide variety of disciplines, the knowledge of which may be fruitfully applied in accounting contexts (Davison, 2013). Therefore, this research sets up a theoretical framework of visual semiotics and visual portraiture theory combined with theory of intellectual capital, while conducting analysis and interpretation by means of a visual content analysis approach.

Beattie and Thomson (2007) argue that transparency is required in the use of content analysis. Content analysis, as a “very transparent research method referred to as an objective method of analysis” (Bryman, 2001, p.189), can allow the generation of information about social groups access to which is difficult. Transparency is important as the content analysis method used to investigate corporate annual reports reflects the researcher’s conception of reality (Gray, Kouhy and Lavers, 1995); Gray (1995) noted that the use of content analysis either demands, or at a minimum implies strongly, that the categories of analysis are derived by reference to shared meanings and that the data collection and analysis must be replicable. There are three famous definitions of the content analysis method. The best known was given by Berelson (1952, p18) who defined content analysis as a research technique for “the objective, systematic and quantitative description of the manifest content of communication”. Similarly, Holsti (1969, p14), gave a close definition of content analysis defined as “any technique for making inferences by objectively and systematically identifying

specified characteristics of a message”. Both of them emphasized the objectivity and systematicity of the approach. Krippendorff (2004, p.18) defined content analysis as a research technique for “making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use”. Krippendorff pointed out the replicable and valid advantage of this approach. The words ‘communication’, ‘message’ and ‘text and other meaningful matter’ found in the three definitions above strongly signal that the content meaning is not only applicable to written materials, but also to any visual communication and message, including pictures, graphs, charts, works of art, images, sounds, signs, maps, symbols and so on, which are meaningful things that cannot be precisely and fully realized and presented by means of linguistic text. Thus, the content-analysis method will be employed in this research with the assistance of quantitative data analysis skills.

Previous research has used this method to investigate IC information in annual reports (Bozzolan, Favotto & Ricceri, 2003; Brennan, 2001; Guthrie and Petty, 2000) and other resources having a broader range of corporate disclosure with regard to IC information, for instance: WebPages, news, etc. (Striukova, Unerman, and Guthrie, 2008). This type of investigation could potentially serve two purposes; first, to measure the extent to which different categories of human intellectual capital information are disclosed and, second, to understand and capture the IC concept, as, in practice, IC reporting provides valuable examples of attempts to do so (Van der Meer-Kooistra and Zijlstra, 2001). To allow the findings to be interpreted and to make

comparisons (or not) across studies, it is essential for the precise details of the content analysis method used to be transparent. IC researchers have also made extensive use of content analysis in examining annual reports, which have been used to investigate the IC reporting practices of firms (Bozzolan et al., 2003; Brennan, 2001; Guthrie et al., 1999; Olsson, 2001); in fact, an early study into IC disclosure used content analysis to capture IC data from annual reports (Guthrie et al, 1999). The literature review and early investigations have revealed annual reports to be a key communication tool used to legitimize corporate activity (Lang and Lundholm, 1993). For this reason, annual reports were chosen as the primary source for examining voluntary IC information disclosure (Guthrie, Petty, Yongvanich and Ricceri, 2004). Thus, this research purposefully selects annual reports as the source of the data under investigation that will best help understand the phenomenon and the research question.

3.2 Visual theoretical framework

3.2.1 Visual semiotics

This research on visual representation places itself within the general theoretical framework of visual semiotics; this is important because the concept of semiotics is academically treated as a ground theory of visual communication, since it has developed during the past 75 years (Kress and Leeuwen, 2006). The analysis of visual communication should be an important part of the critical disciplines of what is actually communicated by images and by visual design. The relations that can be

realized linguistically can also be realized visually under certain conditions (Kress and Leeuwen, 2006). That is why visual images sometimes need to be accompanied by words/captions which linguistically make up the complement of relations when something lacks the possibility of being visually realized. The rhetoric of image is explored through Barthes's image theory (1982a, 1982b). The conceptual apparatus of this theory amply discusses the relation between these two kinds of communication. Moreover, the image theory (1) discusses the cultural differences in daily visual communication, which is suitable for business; (2) analyses advertising, in which abundant visual communication is applied and analysed and (3) considers the overlap of words and images. Thus, Barthes's work is closer to the topic of using visual communication to communicate HIC, an important kind of intangibles in accounting communication, and is therefore used as the main theoretical framework to underpin the study of visual communication in this research.

Barthes's "Rhetoric of the image" (1982b) consists of two aspects: linguistic and iconic. The linguistic message is omnipresent – i.e. the title, explanatory words, captions, etc. – and it performs two functions with regard to the iconic message, i.e. anchorage and relay. Barthes argues that the image comes first, so that the text provides a more definite and precise restatement or fixing of it (a relation he calls anchorage). In Barthes's perspective, anchorage commonly takes the form of photographs and advertisements. As the most frequent function of a linguistic message, it directs the readers in the understanding of an image; so as to cause them

to avoid one in favour of another, and helps them to choose the correct level of perception; consequently, it orientates the readers towards a meaning chosen in advance. Thus, anchorage is an accountable control when facing the projective power of visual images. Anchorage is elucidative, selective and repressive in an attempt to fix, limit, and hold the meaning of a visual image presentation. Anchorage is an important concept which provides theoretical insight and support to understand and develop the conceptualization and categorization of pictures, graphs and charts in this research.

In '*Rhetoric of the image*' (1982: 32-51), Barthes defines the iconic element into two modes: denotation and connotation. Denotation is the analogical representation of external realities and is natural and descriptive. Connotation is the realm of symbolic associations and codes that are affected by factors of cultural ideology, knowledge, educational level and so on, which Barthes does not define. This will help identify the correct level at which to analyse the portrait-style photographs to compare UK and Chinese firms in their visual communication of intellectual human capital.

In addition, this research's theoretical framework also refers to other theoretical insights from Berger (1972), Sontag (1971), Kress and Leeuwen (2006) and Tufte (1983). Berger argued that words are sometimes inadequate to define people's experiences precisely in some areas, which implies that words are not omnipotent to the facts surrounding us and that the relation between what people see and what

people know is never settled. Thus, he argued that seeing comes before words by pointing out that an image becomes a record of how X saw Y. His theoretical insight into the way that people see points at the nature of visual communication also reveals that it is greatly affected by people's knowledge and educational levels.

As a key variable, the important visual media of photography is a significantly represented participant that is investigated in this research, which refers to Sontag's theoretical insight for the interpretation and conceptualization of photographs in theory. Sontag (1971) defined photographs as images, interpretations of reality, traces; things directly stencilled off reality. She similarly argued that a photograph's meaning goes beyond the restriction or security of any caption added to it. Furthermore, she deemed that to photograph is to confer importance, but not only that; photographs provide evidence and, therefore, they are valued for giving information. Sontag greatly links photographs to a series of relations to events as through being photographed, an object becomes part of a system of information. This is helpful to theoretically understand why photographs are nowadays so increasingly used to communicate the intangibles in corporate annual reports.

For the study of visual communication, Kress and Leeuwen (2006) provided some ideas and concepts relating to the grammar of visual design within the social semiotic theoretical framework. They dealt with the patterns of representation and interaction of the grammar of visual design and the relations between the makers and viewers of

visual messages and, moreover, the textual function which deals with the relation between linguistic and visual image messages. Kress and Leeuwen (2006) recognized that the limitation of their work on the ideas, concepts and grammar of contemporary visual design was due to it being restricted to Western cultures. Furthermore, even within the Western culture system, different European nations and regions still retain different ways of life and different ethos and thus make distinctive use of the grammar of visual design. They realised that there are specific characteristics associated with the study of visual communication in non-Western forms of visual communication since ‘different values and meanings are attached to such key dimensions of visual space’. However, they also found that western visual communication existed side by side with local forms. Computer-imaging technology exerts a ‘normalizing, rather than normative’ influence on visual communication across the world. This provides the theoretical assumption for this research to conduct a comparative study of visual communication of HIC between the UK and Chinese firms.

3.2.2 Visual portraiture theory

This portrait analysis framework is underpinned by the theoretical insight developed by Davison (2010), who argues for the possibility that the portrayal of business elites as an external reality can be represented and constructed to serve accounting purposes through the visual art approach. Davison (2010) further articulated the relationship between accounting, advertising and visual images in the conjunction of these three modes of communication, which “constitute an intricate, interlinking and overlapping

melange of representation and construction; visual portraits of the business elite therefore sit at a complex crossroads, as the financial statements themselves construct a reality that excludes directors (other than providing their remuneration details), while the images of directors included in the surround to the accounts fill this lacuna by constructing a visual reality. The business elites are both physical realities and social constructs, and would therefore be both objectively real and subjectively constructed” (Davison, 2010, P4). The same truth applies to the overall human intellectual capital (top management, employees, and customers) since “these intangibles assets are given life through a combination of representation and construction” (Davison, 2010, P5) since they come into existence in an aspect of reality – such as people’s attitudes, beliefs, opinions, regulations and treatments – that is usually excluded from the traditional finance statements framework.

Additionally, portraits are defined as visual representations of identity that goes beyond its single focus and actually lies in a subtle correlation between creator, human subject and beholder (Barthes, 1980), signalling quite a few important connotations, such as the perceived characteristics of individuals and their social statuses, capitals of trust and even moral qualities. Thus, “portraiture is more than representation and aims, at the same time, to convey a range of complex messages about an individual” (Davison, 2010, p5) as it conveys a greater imprint than is consciously realized, extending to an emotional level (Barry, 1996; Gabriel, 2004, 2005; Rindova et al., 2006, quoted from Davison, 2010) and to a dimension of

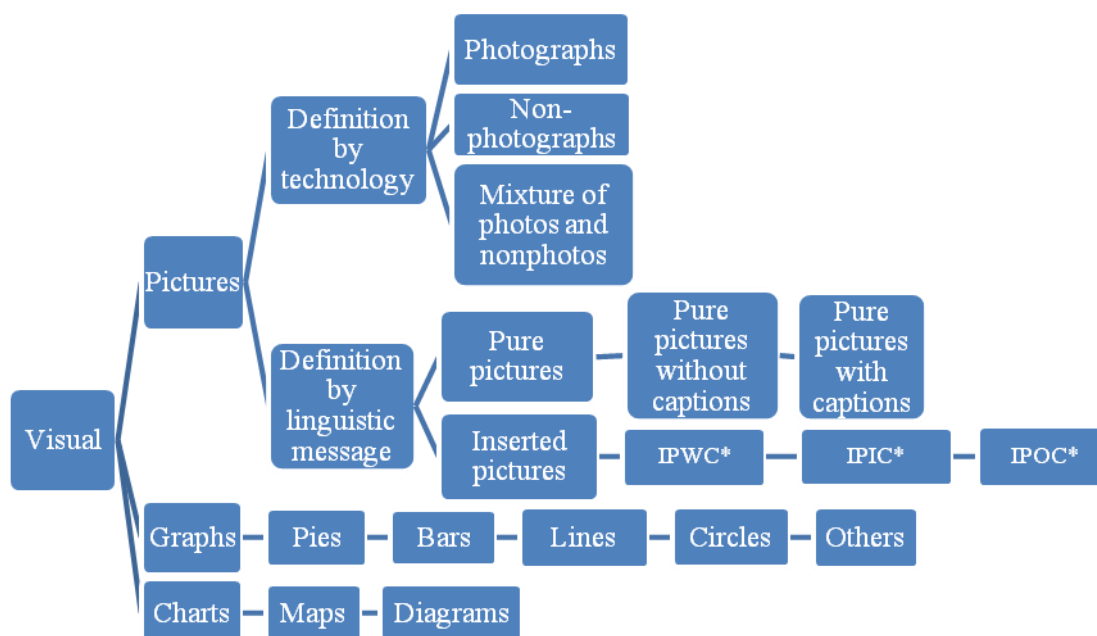
organizational life being rediscovered (Albert, Ashforth & Dutton, 2000; George, 2000, quoted from Davison, 2010). The cultural context to accounting has long been acknowledged (Nobes & Parker, 2010), thus portraiture simultaneously encompasses social and cultural codes (Brilliant, 1991; Campbell, 1990; Rideal, 2005; Syson, 1998, quoted from Davison, 2010).

Davison (2010) developed a conceptual framework characterized by four portraiture codes: (1) physical appearance; (2) dress and what it signals of society, culture and status; (3) the interpersonal messages of bodily movement and expressive signals towards others and (4) the spatial artefacts and setting of the portrait. This theoretical portraiture framework and insight underpins the template design and analysis in this thesis.

3.3 Definitions of key concepts of the visual

3.3.1 An introduction to the visual conceptual framework

Chart 2: Visual definition structure



*: IPWC: Inserted pictures without captions

IPIC: Inserted pictures with inside captions

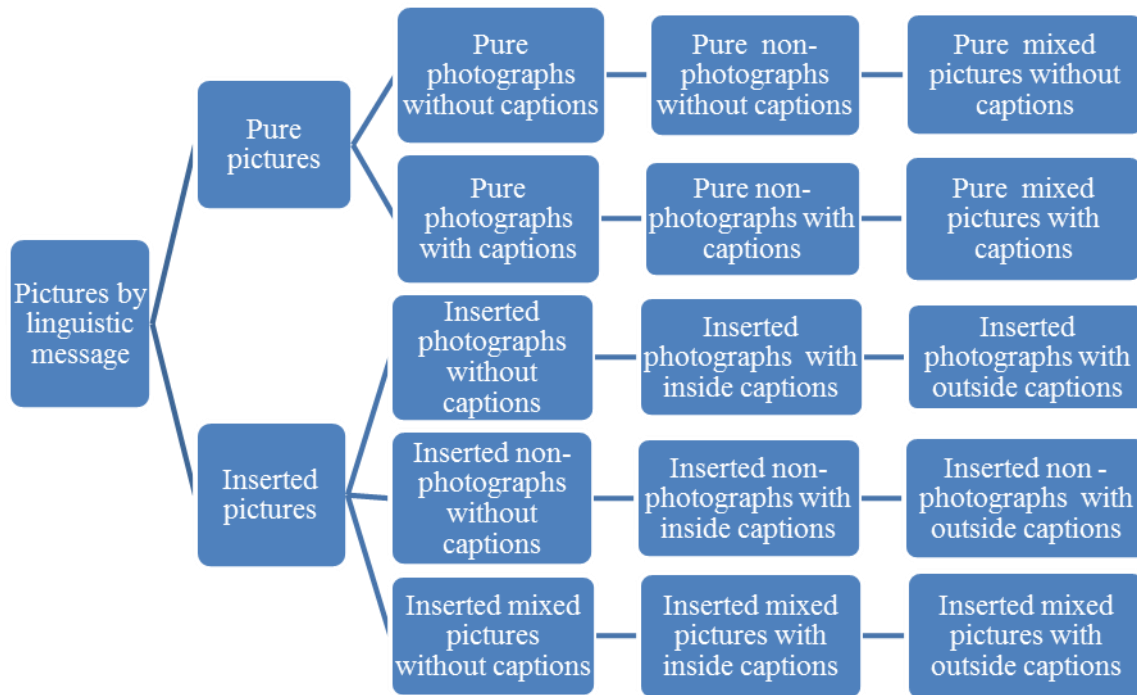
IPOC: Inserted pictures with outside captions

As the above Chart 2 shows, the visual concept framework of this thesis consists of two main categories: pictures and graphs/charts. Pictures are defined through two approaches. One defines pictures by technological device; i.e., any picture must be produced through a specific technology or device. Thus, pictures are defined as a visual that encompasses only three types of images: photographs, non-photographs and any mixture of the two. The other definition makes reference to the embellishment of the linguistic message, through which pictures are categorised into pure and inserted pictures. Additionally, if captions are taken into account, pure

pictures can be further subdivided into those with and those without captions; similarly, inserted pictures can be further subdivided into those without captions, those with inside captions and those with outside captions. Of the latter, graphs/charts are specifically categorized into pies, bars, lines, circles, maps, diagrams and others.

Based on the consideration of taking the two kinds of definition together (see the following Chart 3), it is clear that pure pictures can be also divided into (1) pure photographs without captions, pure non-photographs without captions and mixtures of the two without captions, and (2) pure photographs with captions, pure non-photographs with captions and mixtures of the two with captions. Likewise, inserted pictures can be divided into (1) inserted photographs without captions, inserted non-photographs without captions, and mixtures of the two without captions; (2) inserted photographs with inside captions, inserted non-photographs with inside captions and mixtures of the two with inside captions, and (3) inserted photographs with outside captions, inserted non-photographs with outside captions and mixtures of the two with outside captions.

Chart 3: Pictures by linguistic message



Consequently, according to this visual conceptual framework and with respect to pictures and graphs/charts in this thesis, the relevant research templates are designed and created for the collection and analysis of the surveyed visual information data. The specification of the key concepts of visual is elaborated in the following part.

3.3.2 Pictures and photographs

(a) Differentiating Pictures and Photographs

This research is on visual communication and is focused upon pictures presented in association with human intellectual capital; thus, it is important to identify the type of investigated pictures. What is the definition of picture? What are the differences between pictures and photographs? How are their concepts distinguished in the paper? How to set up counting principles to ensure the reliability and validity of the collected

data? These issues may be challenging in this qualitative research since, on the one hand, there is little previous reference available to be fall back upon due to the lack of in depth and detailed discussion with regard to the visual method in previous relevant work; on the other hand, the uniqueness of this research means that there are no parallels with respect to specific methods relating to different research topics.

The definition of photograph given in the Oxford Dictionary (2010) is that a picture made using a camera, in which an image is focused on to light-sensitive material and then made visible and permanent by chemical treatment, or stored digitally. This definition clearly indicates that a photograph is made up of both human and non-human information and that, furthermore, it strictly relies on the application of a camera or another modern digital device.

The Oxford Dictionary (2010) defines a picture as a concept, as a painting or drawing, a photograph, a portrait, an image on a television screen, a cinema film or an impression of something formed from its description. This is a general definition of “picture” which shows the inclusion of the photograph, frequently used for human portraiture. It is obvious that pictures can be taken through either digital or non-digital technology – e.g. traditional or digital cameras – and traditional hand or computer aided drawing to produce non-photographic pictures – such as sketches, drawings and cartoons – and they can not only involve human information – involving physical code (the human face, body, skin, expression, emotion and dress), and intangible code (psychology and

cultural intention) – but also a wide array of non-human information. This research mainly focuses on pictures conveying human information.

Although both photographs and non-photographs may be artistic in nature, the former generally remain more closely related to external reality whereas the latter involve more creativity (Barthes, 1982). In the context of annual reports, it is useful to see whether there exists a relationship between a more or less creative use of non-photographs and a given national culture (the English as opposed to the Chinese, for instance) or sector (Banking/Financial Services/finance as opposed to Retail, for example).

Hence, pictures have a conceptually broader scope that includes photographs. To facilitate the visual data collection and according to the interpretation of the key concepts and of the technology devices measurement, pictures can be generally broken down into three categories that are identified and defined in this paper to illustrate specific concepts, i.e. photographs, non-photographs and mixed pictures.

(b) Pictures by technology

(i) Photographs

If a picture is initially made by means of a camera or modern digital device, it is treated as a photograph. The following Example 1 appears to have been created by such a device; hence, it is obviously identified as a photograph.

Example 1: identification of a photograph

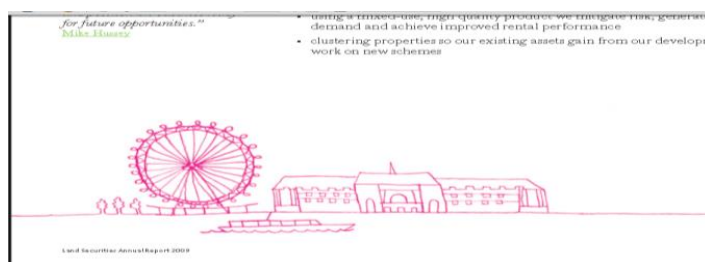


(Source: The British Land Company Plc Annual Report &Accounts 2009, p21)

(ii) Non-photographs

If a picture is not originally made by (digital) camera/video device, but is hand-made –like a sketch, caricature, oil painting, etc. – or is computer generated/processed – like a corporate logo, visual slogan, trademark, traffic symbol, cartoon and so on – it is regarded as non-photographic. The second example clearly shows a coloured pencil sketch that could have been hand-drawn or computer processed/generated. The picture is identified as non-photographic.

Example 2: identification of a non-photographic picture



(Source: Land Securities Annual Report 2009, P44)

(iii) Mixed pictures

If the picture is a mixture of photographs and non-photographs, it is identified as a mixed picture. In the third example, the hands and the trees are clearly generated by the means of a digital/video camera, whereas the picture of planet earth could have been added by computer. This is defined as a mixed picture.

Example 3: the identification of a mixed picture.



(Source: Bank of China Annual Report 2009, Front page)

(c) Pictures by linguistic message

(i) Pure pictures

The term “pure” denotes an independent picture with no inserted linguistic content. Based upon captions, pure pictures can be subdivided into two main types, i.e. pure picture with and without captions. Accordingly and based upon the category definition of pictures, each type of pure picture can be divided into three subcategories: pure photographic, pure non-photographic and pure mixed picture. The following examples are listed to illustrate several specific pure pictures (Examples 4 to 9).

Example 4: Pure photograph without captions



(Source: Allianz Rapport annual report 2010, P9)

Example 5: Pure non-photograph without captions



(Source: First group annual report and accounts 2010, P15)

Example 6: Pure mixed picture without captions



(Source: Sinopharm Group Co. Ltd. Annual report 2010, P66.)

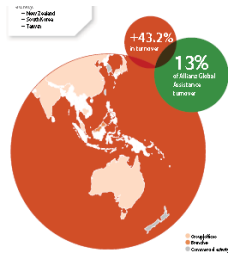
Example 7: Pure photograph with captions



Rebuilding and Recovery

(Source: RBS annual report and accounts 2010, P2)

Example 8: Pure non-photograph with captions



(Source: Allianz Rapport annual report 2010, P18)

Example 9: Pure mixed picture with captions



(Source: Neo Telemedia annual report 2010, front page)

(ii) *Inserted pictures*

An inserted picture is defined as a picture incorporated into the linguistic text. In some contexts, the pictures are coupled with some words which basically serve as the linguistic background. Specifically, these linguistic messages are usually enclosed,

printed, pasted or attached on the surface of any materials/items photographed for any business purpose, such as advertising words, slogans, titles, promotions, highlights, brand names, product names, service watchwords, company IDs and so on. Captions are different from the inserted words that are photographed at the time the shot is taken. Concretely, captions are defined as edited literal messages that are added on or presented onto the surface of pictures and are not present on any particular item in the picture, they can be defined as: an external literal presentation/attachment added later:

- a) to aid the interpretation of the linguistic message and regarded as performing an anchorage function aimed at elaborating, orientating and fixing the iconic message of the visual image;
- b) designed for explanation or persuasion purposes of specific themes such as customer base expansion, top management quality, employee skill/education/commitment, social accountability, environmental protection and so on (sometimes as footnotes).

Nine types of presentations of visuals with text/captions are conceptually illustrated through nine examples (examples 10 to 18), namely: inserted words photograph without captions (IPWC), inserted words photographs with inside captions (IPWIC), inserted words photographs with outside captions (IPWOC), inserted words non-photographs (painting/drawing/caricature) without captions (INPWC), inserted words non-photographs with inside captions (INPWIC), inserted words non-photographs with outside captions (INPWOC), inserted words mixed pictures without captions (IMWC), inserted words mixed pictures with

inside captions (IMWIC), and inserted words mixed pictures with outside captions (IMWOC).

Example 10: An inserted words photograph without a caption (IPWC)



(Source: Vodafone Annual Report 2009, p20)

Example 11: An inserted words photograph with an inside caption (IPWIC)



(Source: Land Security Annual Report 2009, p15)

Example 12: An inserted words photograph with an outside caption (IPWOC)



(Source: TESCO Annual Report 2009, p22)

Example 13: An inserted words non-photograph without a caption (INPWC)



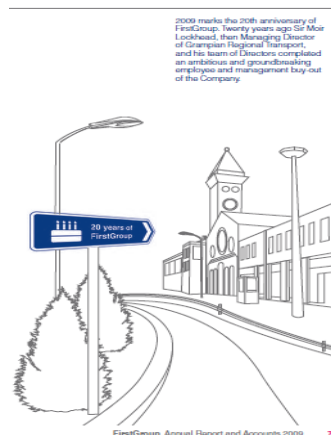
(Source: First Group Plc Annual Report and Accounts 2009, p11)

Example 14: An inserted words non-photograph with an inside caption (INPWIC)



(Source: LandSecurity Annual Report 2009, p144)

Example 15: An inserted words non-photograph with an outside caption (INPWOC)



(Source: First Group Plc Annual Report and Accounts 2009, p7)

Example 16: An inserted words mixed picture without a caption (IMWC)



(Source: Land Security Annual Report 2009, Back page)

Example 17: An inserted words mixed picture with an inside caption (IMWIC)



(Source: The Sage Group Plc Annual Report and Accounts 2009, Front page)

Example 18: An inserted words mixed picture with an outside caption (IMWOC)



(Source: London Stock Exchange Group Annual Report 2009)

To facilitate the data collection and simplify the research template, the above nine types of inserted pictures are simplified into three main categories: inserted pictures

without captions (IPWC), inserted pictures with inside captions (IPIC), and inserted pictures with outside captions (IPOC), which are accordingly place under their relevant types of picture category: photographs, non-photographs and mixed pictures.

3.3.3 Graphs and charts

The Oxford Dictionary (2010) defines the term graph as a diagram showing the relation between variable quantities, typically of two variables, each measured along one of a pair of axes at right angles. According to this definition, the conceptual framework of the graph in this thesis consists of a sheet of information in the form of a bar graph (Example 19), a pie graph (Example 20), a line graph (Example 21) and a circle graph (Example 22). The term chart is given a broader definition in by the Oxford Dictionary (2010) as a sheet of information in the form of a table, graph, or diagram or, in different contexts, a weekly listing of the current bestselling pop records, a geographical map or plan, and in astrology a circular map. To avoid repetition and confusion between the meanings of chart and graph, chart, in this paper, is narrowed down to a sheet of information of a diagram (Example 17) and map (Example 18). The definition on these key concepts facilitates the logical categorization of the visual data information in the research data collection process.

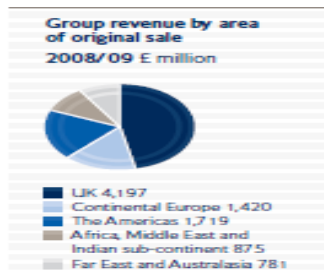
The following examples are illustrated here to aid the understanding of the above definitions.

Example 19: Identification of a bar graph



(Source: British Airways 2009 Annual Report and Accounts, p6)

Example 20: Identification of a pie graph



(Source: British Airways 2009 Annual Report and Accounts, p3)

Example 21: Identification of a line graph



This graph shows the value, by March 31, 2009, of £100 invested in British Airways Plc on March 31, 2004, compared with the value of £100 invested in the FTSE 100 index. The other points plotted are the values at intervening financial year ends.

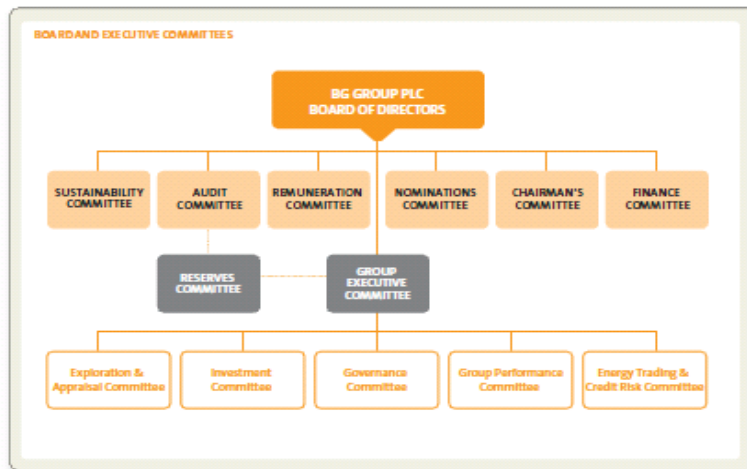
(Source: British Airways 2009 Annual Report and Accounts, p69)

Example 22: Identification of a circle graph



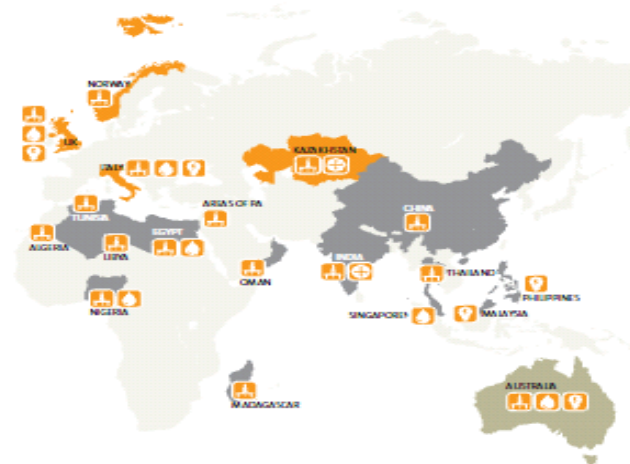
(Source: British Airways 2009 Annual Report and Accounts, p56)

Example 23: Identification of a diagram



(Source: BG Group Annual Report and Accounts 2009. P46)

Example 24: Identification of a map



(Source: BG Group Annual Report and Accounts 2009. P3)

3.4 Identification of visualised human intellectual capital

3.4.1 Definition of human intellectual capital

In this paper, human intellectual capital (HIC) is defined as a conceptual capital which comprises top management, customers and employees. Each category can be subcategorized by HIC elements (see Appendix 1). For example, the customer concept

can be further divided into customer service, customer satisfaction, customer loyalty, customer security, customer segment and so on. The employee concept can be subcategorized into employee equity, employee education structure, employee age structure, employee safety, employee relationship, employee welfare and so on (Guthrie and Petty, 2000; Campbell 2010). However, although these specific items can be clearly presented in graphs and charts, it is generally inconvenient or challenging to identify such specific subcategories in pictures with the exception of those that come with a caption or a linguistic message explanation or implication. Hence, to facilitate the data collection, the general features are only taken into consideration when collecting the relevant visual data regardless of the specific subcategories. For example, when collecting the employee aspect of the pictures data, various specific employee themes arise, an effective and feasible solution is to just treat them as general employee picture data.

Two kinds of visual intelligence are widely used to communicate HIC, categorized here into (1) pictures and (2) graphs and charts. The former is dominantly achieved by the portrayals approach, frequently used to communicate visible aspects of human information (physical, dress, spatial, and interpersonal). This is the main domain upon which the paper intends to focus the qualitative analysis of pictures. The latter, graphs and charts, are employed to convey aspects of HIC that are beyond the capacity of the pictures' expression.

3.4.2 Identification of human intellectual capital visual data

According to previously developed conceptual frameworks, the research templates are designed for the collection of relevant visual data, including general visual data and visual data only related to HIC (see Appendix 1). If the theme of a visual, e.g. a picture, is only related to non-human topics, it is identified as only general visual data unrelated to HIC information. If the visual theme is clearly associated with the three main types of HIC (managers, employees and customers), it is identified as HIC related visual data. However, if a picture involves other aspects of human information not relevant to three main types of HIC, should it be regarded as human or non-human information? Thus, in supplement, the “Others” category is added to the research template. Two examples are given here to demonstrate the case of HIC visuals with captions. The following picture (Example 25) from the British Land Company Plc involves minute human information. It is difficult to identify the two people in the photograph; they may not be employees, customers or management staff, but just passers-by. Thus, in this case, the human information shown in the picture would be classified into the others category. In contrast, Example 26 clearly shows that the main theme of the image is the chairman, who belongs to the Top Management category. Hence, it is identified as HIC visual data.

Example 25: Identification of a non- HIC visual theme



Queens Retail Park, Stafford

(Source: British Land Company Plc Annual Report 2009)

Example 26: Identification of an HIC visual theme



(Source: British Land Company Plc Annual Report 2009, p6)

Therefore, the capture rule for visual data in relation to HIC is described as follows:

Data capture Rule for visual human intellectual capital: only when the theme of a visual communication is mainly concerned with the themes of management, customers or employees it is categorised as human intellectual capital visual data.

The cases of picture identification

There are two straightforward ways to judge HIC pictures identification: an HIC visual image can be identified and categorized by caption (see Example 27) or it can be identified by dress (see Example 30).

However, if there is no sign of either caption or dress in a picture, how is the picture identified in relation to human capital? An alternative solution is to refer to the context background, which includes previous or following pages, in which a theme could be outlined. Example 28 is a typical case of a picture without any information by caption or dress, in which it is difficult to logically precisely identify the HIC category. However, based upon the consumer information found in the previous page (p.16), where an indication is provided by a big caption relating to customer service improvement, it is obvious that the human capital information in the picture can be identified as belonging to the customer category.

By this approach, the three key categories of HIC mentioned above are analysed as follows. Management focuses on top management staff (chairman, CEO, FEO, board of directors, governance committee members, senior supervisors, etc.) that is frequently presented by means of visual images to purposefully emphasize the leadership capital in a company's value system. The following Example 27 shows the identification of management visual data.

Example 27: Identification of management visual data (the Chairman of the P&G Group)



(Source: P&G Annual Report 2009, p1)

Customers, extracted from the external/relational capital of IC, are usually represented through pictures with important captions that provide the necessary explanation.

Example 28 identifies customers based on the caption.

Example 28: Identification of customer visual data



(Source: British Airways 2009 Annual Report and Accounts, p11)

Example 30 can be identified as a customer based upon the context of the previous page (p.16, shown here as Example 29) as communicated by a big caption on consumer service improvement which takes the form of a quote:

Example 29: Context quote as a reference to the identification of Example 30



(Source: P&G Annual Report 2009, p16)

Example 30: Context –analysed identification of customer visual data



(Source: P&G Annual Report 2009, p17)

Employees, belonging to the human capital in IC, are also frequently conveyed through photographs with captions to show a company's human resource potential and talents. The following example 31 shows the identification of an employee visual image by both the caption and the uniform hat.

Example 31: Identification of employee visual data



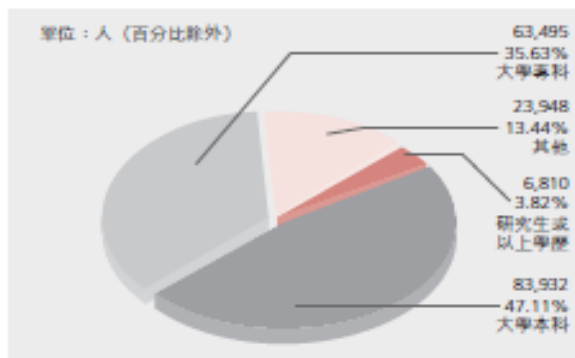
(Source: British Airways 2009 Annual Report and Accounts, p39)

The cases of graph/chart identification

Graphs and charts are occasionally used to communicate HIC information; they are frequently used with the assistance of words and numbers, specifically through interpretative captions. In the case of graphs/charts, the identification is made straightforward by the captions. Example 32 is related to the educational level structure of Bank of China (BC) employees. A liberal translation of such educational level structure is given here.

Example 32: An HIC graph on BC employees' educational level structure

內地商業銀行勞動合同關係員工的學歷結構：



(Source: Bank of China Annual Report 2009, P65)

Liberal translation of the Chinese description in the pie:

The pie graph shows that the undergraduate level takes the lion share with 47.11%, the second largest is institute/college level with 35.63%, followed by the category of “other” with a proportion of 13.44%. The smallest share is postgraduate/PHD level with 3.82%.

Challenging issues in visual identification

(i) Accurately identifying pictures in relation to HIC that is only partially presented can be difficult. As shown in the following Example, on page 19 of the 2010 English version of the Lenovo Company’s annual report, the picture just shows a human hand disregarding any information regarding face, dress and expression. Can this be identified as portrait visual data (It cannot, since it is missing key elements, like a face) and to which subcategory of human intellectual capital should it belong? Based upon the picture’s content, caption/note, etc., this Example is identified as belonging to the customer category; the visual setting shows that this person could be a painter/illustrator, as indicated by the different colour pencils, the various model subjects and by the caption “*Lenovo’s new global branding campaign ‘Lenovo: For Those Who Do’*”, which indicates that this type of product is designed for a specific group of customers and for a specific purpose.

Example 33: Identification of a picture only partially related to human information



(Source: Lenovo annual report 2010, p21)

(ii) How to deal with marginal data visualized in non-photographs in annual reports?

Can marginal data visualized in non-photographs in annual reports be recognized as visual data? For instance, can a visualized page number (e.g. China Telecom 2010 annual report), a top visualized margin (e.g. Directel Holdings Limited 2010 annual report), a bottom one (e.g., NEO Telemedia 2010 annual report) and so on be regarded as relevant visual data? Theoretically, they should be treated like the visual data identified in this research. In practice, they are seldom found, and they indicate or are linked to specific aspects of corporate intangibles; for instance, the page number visualization shown in the China Telecom 2010 Annual Report has a tree theme, which is an important denotation of fast corporate development, strong performance and a promise of future prosperity which assists in greatly enhancing investor confidence. However, this visual marginal image is shown on every page through the whole annual report. This is an extremely unusual occurrence that somewhat disrupts the balance, fairness and harmony of the comparative study of the various investigated companies, which normally do not present such extreme variables.

Therefore, such marginal visuals are not taken into consideration in the visual counting and measurement.

(iii) In some cases, the human information is irrelevant to the key three types of HIC (managers, employees and customers) In fact, it can be supplemental to a company's external capital, through which the latter's relationship with exterior factors will meaningfully enhance its relational capital, which is the extension of a company's internal value, academically embodied as the marketing value in accounting and finance. In other cases, it is a mixture of the three types of human capital. The question is: how can it be identified? In view of this, it is necessary to consider setting categories of 'mixed' and 'others' in the HIC research template.

(iv) If there are subsidiary pictures in the main one – for instance, the picture on page 25 of the 2010 John Lewis Partnership annual report and that on page 4 of the 2010 M&S Annual report – how are these pictures in pictures taken into account? The solution is to regard all the human information as mixed, which can provide symmetry to human and non-human image information, consequently avoiding the relevant image information being either duplicated or overlooked.

3.4.3 Analysis of human intellectual capital portraits

One of main aims of the analysis of HIC visual images is to investigate the role played by local cultural factors in visual communication in company annual reports

on intangibles from an accounting perspective. In their *Economics of business in context*, Hallam, Neale and Johal (2000) stated that, in the business in context model, all business aspects both contribute to and are influenced by the organizational culture. However, organizational culture is placed at an organizational level which is greatly influenced by broader external social and cultural factors, in which national culture plays a vital role. With regard to accounting communication issues, previous researchers found that leadership vitally contributes to the assessment of a business's performance and potential, but leadership – as other intangibles – is excluded from traditional accounting (Blair & Wallman, 2001; Power, 2001; Lev, 2004; Davison, 2010). Images, being important effective visual media and precious data resources, convey their abundant visual HIC extremely effectively and also greatly reflect both national and organizational cultural peculiarities which it would be impossible to present in financial statements.

Davison (2010) developed an inter-disciplinary model of visual rhetoric to offer a systematic means to examine intangibles through physical, dress, interpersonal and spatial codes. This four-code model systematically portrays the characteristics of visuals widely used to present human aspect information in corporate annual reports and is employed in this thesis to serve as an analysis model in the exploration of how pictures are used to communicate HIC and of what differences exist between the UK and China at the national culture level in the business context.

Physical codes include physical likeness, identity, factual information (age, gender, ethnicity), physical attractiveness (linked with success) and physical stature, which is often said to be interwoven with personality (Davison, 2010). Dress code places an individual culturally and is one of the first codes that the viewer of a photograph instinctively recognizes and interprets (Davison, 2010). Clothing, as a rich ensemble of codes and signals, is inextricably linked to social status, power, wealth and culture. Interpersonal codes are divided into body language – facial expressions, hand gestures; body poses, which clearly show feelings and emotions – and group portraits in terms of the relationship to others, hierarchy and cultural attitudes. Spatial codes are linked to props and artefacts – e.g. chairs, tables, mirrors, trade symbols and settings which may be interior/exterior/fictitious. The following Example 34 shows how to use Davison’s visual portrait codes model to analyse HIC data.

Example 34: How to decode an HIC visual



(Source: British Airways Annual Report and Accounts 2009, p47)

This pure photograph with its outside caption shows information pertaining to both British Airways aircraft attendants and passengers. Its purpose theme is to show British Airways customer service. (1) Physical code: the factual information conveyed through the picture shows the aircraft attendant as a white young female staff member (2) Dress code: evidently, the company uniform can be identified at first glance, clearly signalling that such good service is provided by BA. The uniform is formally designed, fashionably very attractive, rich in colour rhetoric, concise and professional in style, strongly enhancing customer impression, and also conveys BA's core values of creativity and innovation. (3) Interpersonal code: the aircraft attendant's smile shows enthusiasm, friendliness and self-confidence, intending to reflect the spirit of BA. Her hand gesture is helpful, denoting body contact together with the always important eye contact, both of which effectively accelerate communication between staff members and customers and enhance the personal credibility, professionalism and quality of the relationship between BA and its customers and stakeholders. (4) Spatial code: the trade props include the inside of an aircraft cabin, cups, refreshments, a selection of juice bottles, etc. that appear to be half-empty and the passenger compartment and seats, which indicate that the service is provided during flight.

In brief, the four codes in the photograph convey the relevant information that BA provides an ever improving customer service, causing customers to feel comfortable, valued and respected, which is the main message that the visual aims to transmit.

The research template subcategories in the four sets of rhetorical codes framework will be ticked. Microsoft Excel is employed to calculate the subcategory and to sum up the general category of each individual sample firm. Then the UK and China groups are summed up and, finally and based on the statistical data collected, a comparison analysis is conducted to reveal the common ground and the differences in the visuals between the UK and China group and to examine the role played by local culture in business images.

3.5 Counting methods

3.5.1 Counting visual images

In this paper, the research template (see Appendix 4: Blank content analysis template) is designed according to the conceptual framework developed in the above discussion of the definition, categories and elements of both the IC and visual concepts in the literature review. The HIC (see Appendix1) is identified and extracted from the three IC conceptual frameworks (internal, external and human capital) and their relevant indicators, as adopted in this paper. The visual image data focuses on pictures and graphs/charts.

Two counting methods are defined and designed in this research, i.e. unit and space counting. Unit counting is measured in units of occurrence, emphasizing the absolute occurrence quantity; in addition, space counting is used to measure the size of the data in each page to highlight the significance of the relevant visual data, which is omitted

in unit counting. These two kinds of counting aim at providing a statistical data base to analyse how visual intelligence is used to communicate HIC in a conceptual framework. In this paper, unit counting enumerates each occurrence of a visual item. As content analysis is characterized by unitising a recording unit adopted for this paper. Carney (1972) interpreted recording units as the things to be counted. In academia, the visual image can be selected to be the recording unit (Holsti, 1969; Carney, 1972). Furthermore, unit counting is used to calculate the total volume of each kind of visual image data.

The counting procedure is made up of two parts. The first involves counting the total absolute unit occurrence of each category of general visual in the investigated firm's annual report. The second entails separately counting the unit occurrence of visual data related to HIC.

3.5.2 Unit counting rules

Unit counting is intended to highlight the quantity of the visuals. Some visual images are simply framed in the count because they are obviously independent and separate; some are complicatedly framed and are even greatly, if debatably, confused. For example, different visual themes/items are sometimes framed and presented together as mixed multiple theme pictures. The complexity and diversity of visual image presentation in annual reports presents an increase in the difficulty of the counting procedure of specific visual items due to the lack of availability of previous references

in the respect of a detailed visual counting discussion both in theory and practice. The new counting challenges emerging in this project provide an important opportunity for it to make an important contribution to help further complement and develop visual counting practice. This paper attempts to devise unit counting rules to meet the requirements posed by different visual communication circumstances in order to ensure the logical consistency, accuracy and credibility of the procedure of unit counting of visual data.

In a normal situation, a visual image with a single theme/item is basically presented in a corporate annual report. In such a case, the rule for the unit counting of a visual image is devised as follows with Example 35, in which one unit is recorded per one visual image occurrence:

Rule 1 for Unit Counting: Record one count per visual image occurrence of a visual item regardless of image size. A repeated image counts as two occurrences.

Example 35: One unit record per visual image occurrence



(Source: TESCO Annual Report 2009, p3)

Sometimes, visual images are shown as a group in which the individual visual image is still independently presented although it is framed in a whole cluster. For example, the passport-size photographs of the board of directors members are often presented as a group in a page (see Example 33), and multiple product items as mixed pictures (see Example 34). In these cases, the way in which to count the number of unit is a hotly debatable issue in visual counting practice principle which has seldom been mentioned by previous researchers. To keep logical consistency in visual unit counting and to avoid ambiguity errors in the visual data collection, this paper proposes a specific theme/item counting approach as a solution to the image group unit counting issue. This approach is characterized by the individualism and separation of each different theme/item. The following Rule 2 is devised based on such a conceptual approach.

Rule 2 for Unit Counting: record one count per specifically individual visual image item regardless of whether the image group is presented as individual and separate or framed within a whole cluster when the image group consists of multiple themes/items.

As can be seen in the following Example 36 – the photograph of the board of directors from the 2009 Bank of China Annual report – although the board is presented as a group here, according to the above Rule 2, the digitally presented stand-alone pictures of each director is to be coded and counted individually and should be recorded as one

count per individual visual image item. Therefore, eight counts are recorded.

Example 36: the challenge presented by the counting of multiple items framed as a group in a visual image from the 2009 Bank of China Annual report



(Source: Bank of China Annual Report 2009, p78)

Example 37 concerns unit counting in a multiple theme/item (different products) mixed photograph from the 2009 TESCO Annual Report. As seen in the photograph, the different products are presented together and framed as an image cluster. Although it could appear to be framed as one photograph, the image group presents different products (different themes/items); thus, according to Rule 2 in the conceptual framework here, each product is counted individually and separately, one count per theme occurrence. Hence, 6 counts are recorded in total for Example 37.

Example 37: unit counting in a multiple theme/item photograph



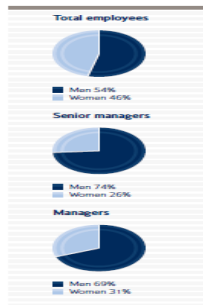
(Source: TESCO Annual Report 2009, front page)

Another challenge is presented when visual images are presented in the form of graphs and charts. If a visual image is not purely and individually presented, as in the normal context discussed in Rule 1, but as multiple themes/items, how are the units of graphs/charts to be counted? A theme principle is developed here as a conceptual base to address such a situation. If the visual information is presented in different themes/items, then one unit count is to be recorded per theme/item. The following Rule 3 for counting in such a context is devised:

Rule 3 for counting graphs/charts: If the information in a graph/chart refers to multiple human capital themes/items, record one count per theme/item, if the information contained in a mixed graph/chart refers to a single specific HIC item, record one count per graph/chart.

The following Example 38 examines a multiple items graph from the 2009 British Airways Annual Report. It shows the staff gender proportion divided in three themes/items (employees, senior managers and managers). Although the graph is framed as a whole, according to Rule 3, each theme/item is coded and counted individually. Thus, three counts are recorded here.

Example 38: the challenge presented for counting mixed multiple theme/item graphs/charts



(Source: British Airways Annual Report and Accounts 2009, p40)

3.5.3 Space counting rules

Space counting is characterized by the occupation of page space by each kind of visual image in an annual report. Space counting is used to show the significance of a visual image by measuring the proportions of the visual communication of HIC in the total visual image space volume of an annual report. Because of the variety of visual image sizes, it could seem very difficult to measure the portion of page space occupied by a visual item. The measurement of page space was another big challenge which arose in the research data recording. There is little evidence in previous literature and visual researches articulating a clear, logical and appropriate measurement method for the space counting of a visual image that partially or totally occupies the space of a page.

This paper firstly contributes by developing a new measurement method called a ‘transparency tool for space measurement’ (see Appendix 6), in which, to measure the

space of the page occupied by a visual image item, an A4 size paper is divided into 18 equal grid squares. By this approach, a page is defined as a calculation unit for visual item space. International standard paper sizes – such as the ISO A4 – are widely used worldwide today. The most officially and popularly adopted ISO A4 size is used for official documents, letters, magazines, forms, catalogues and laser printer and copying machine output. “The majority of the corporate reporting documents were published in the A4 format. By choosing the A4 format, companies signal that their annual report is very much a business and official document” (Davison and Skerratt, 2007). Appendix 2 shows the width and height of all ISO paper formats, A4 being 210×297 millimetres.

To simplify the calculation of the visual image page space area, the height of an A4 sheet is approximated upward to 300mm, allowing it to be divided into six equal parts of 50mm each. Similarly, its width can be divided into three equal 70mm parts. Thus, an A4 sheet can be divided into 18 squares with individual areas approximating 3500 square millimetres (50mm×70mm). To make number notation conveniently brief, dimensions are transposed from millimetres to centimetres, i.e. each individual area measuring 35 square centimetres. Every individual square occupied by a visual image item equals 1/18 (roughly 0.055) of a page; thus, if it covers two squares, it is measured at 2/18 (roughly 0.11) of a page. This makes it easy and adequately accurate to calculate/observe the space taken by a visual image item on a page. If the space occupied by an image is deemed not to be an exact number of squares, to simplify

measurements, it is approximated to the nearest integer number of squares. For example, if the space occupied is estimated to be close to two squares (>1.5), this paper considers it approximated to two; if it is closer to one square (<1.5), it is approximated to one. Should the space occupied be estimated to be equal to one and half squares ($=1.5$), $1.5/18$ (roughly 0.08) of a page are recorded.

Statistical probability and frequency indicate that the errors introduced by these approximations will offset and balance each other out overall. Therefore, the space counting method described here tends to be the most practical and accurate, supported by theoretically strong evidence in terms of geometry and statistics. This rule for space counting is designed in this paper as follows:

Rule 4 for space counting: record one page space unit ($=623.70$ square centimetres, i.e. $18 \frac{1}{18}$ squares) if a visual image item occupies the whole page. Record $1/18$ of a page for every square occupied by the image.

For example, in the following Example 39, taken from the 2009 Barclays PLC Annual Report, the visual image item occupies the whole front page size space. Based upon Rule 4, one standard page space unit is recorded for this image item.

Example 39: Space counting one whole page size space



(Source: Barclays Plc Annual Report 2009, Front page)

The following Example 40 shows the photo of Barclays Plc's group chairman in its 2009 annual report. The 18 partitions model described in the previous paragraph shows that the photo approximately covers four squares. According to Rule 4, thus, 4/18 (0.22) of page space are recorded for the photo.

Example 40: Space counting of part page size space



(Source: Barclays Plc Annual Report 2009, p6)

One more new space check tool called the A4 shape model is created in the project. According to the 18ths geometric area measurement framework, an 18-partitions shape model is devised by means of a transparency sheet and is used to individually quantify the area size of any visual image in the selected sample of annual reports. The space counting procedure consists of two steps. The first step is to count the total space occupied by each kind of visual image, by category, in the whole company annual report. The second is to count the total space occupied by each kind of visual image only in the HIC aspect. Finally, make a comparative statistical study in space occupied between human capital and whole annual report to investigate the proportion of visual intelligence used to communicate HIC for an insight into the space proportion perspective.

3.5.4 Portrait data identification and counting rules

The criteria for identifying the different human capitals by subcategory (senior/top management, employees, customers) is defined by the following rules: 1) identification by caption; 2) identification by dress; 3) identification by context text (in the case of pictures with neither caption nor dress); 4) identification as “mixed” if it is a mixture of different human capital categories; 5) identification as ‘others’ if a picture is not related to human capital as identified in this thesis.

The rule for portrait code counting: record one count per occurrence of specifically

individual portrait code item regardless of whether it is management, customers, employees or others. Thus, the data in the template will be the accumulated sum of occurrences per portrait code item. For instance, in the UK Banking/Financial Services, finance and insurance industry sector, the male sum is 190, which means that there are altogether 190 occurrences of the portrait code of 'male' regardless of whether they are senior management, customers, employees or others. To pursue a more accurate comparison, the percentage of per portrait code item in the total population is given as an important supplement to the template, not limiting it to absolute counted numbers.

3.6 Samples

The 2010 annual reports of the investigated organisations provided information resource sites from which the relevant research data could be collected. It took a three-step procedure to reach the final overall sample data goal of this research. The first step was to set up the scale of the sample. A total of 150 organizations and 5 industry sectors were investigated. Among these, were 50 UK operating organizations, 50 Hong Kong organizations and 50 Chinese organizations, which are referred to in this comparative study as UK firms, China H firms (Hong Kong), and China A firms (Mainland China). The Chinese language version of the China A firms' annual reports were selected as they more authentically reflect their original local features. The China H firms' traditional Chinese language version annual reports are considered for the same reason. Five industry sectors were also selected: Banking/Financial

Services/finance, Logistics, Energy, IT/Telecom and Retail. This was to verify whether the choice of visuals is sector- rather than country-sensitive.

The second step was to download and collect the 2010 annual reports of all surveyed organizations. Ten 2010 annual reports for each sector were downloaded in PDF format from each of the investigated organizations' official websites. Thus, a total of 50 2010 annual reports were available for each group across the five sectors, or 30 corporate annual reports for each industry sector across the three groups. Overall, 150 2010 annual reports were collected from the investigated 150 organizations in this thesis. This is shown in the following sample base summary Chart 4. A listing of the organizations is also provided in Appendix 3.

Chart 4: Sample basis

Sector	China A organizations (Simplified Mandarin)	China H organizations (Traditional Mandarin)	UK organizations (English)	Total
Banking/Financial Services	10	10	10	30
Logistics	10	10	10	30
Energy	10	10	10	30
IT/Telecom	10	10	10	30
Retail	10	10	10	30
Total	50	50	50	150

The third step involved the collection of the relevant visual data. Much detailed work was spent on this massive analysis and the categorization of the relevant visual data.

The collection required the analysis and selection of the relevant information from the vast amounts variously dispersed in every individual annual report. This required a

series of analyses conforming to the relevant research templates. For instance, any visual image found in the organizations' annual reports firstly needed to be considered for relevance before being put into the general visual data template. Then consideration had to be given to the specific HIC or visual form it should be assigned to and their unit count and space occupation had to be quantified. If a visual image was found to belong to the portrait aspect of HIC, a more detailed observation and analysis were needed to input their relevant information into the portrait templates that comprise a framework set of 4 codes, i.e. age, gender, dress plus body language and spatial settings. Overall, 27,104 pages and 5,697 pieces of relevant general visual items – including 2,843 pieces of HIC visual information and 2,854 pieces of non-HIC visual information – were collected from the 150 annual reports. It took an average of 25 minutes per HIC visual and 6 minutes per non-HIC visual to complete the collection of each piece of relevant visual information. Thus, around 1,470 hours were spent in obtaining each individual organization's total visual data, double checking measurements for accuracy. This was the primary data collection.

The final step involved the summing up of the overall collected individual templates, consisting of the general visual and portrait templates. Statistical analysis was performed from individual to general by research templates by means of double checked entries, which took approximately 350 hours in total.

3.7 Content analysis templates

The research templates are designed based on a conceptual framework consisting of a series of relevant concepts, which had been developed in the critical literature review and methodological issues phase, aimed at quantifying the relevant information in relation to this research topic. This includes two types of templates, namely: visual data and portrait templates (see Appendix 4 for samples of blank templates). Visual data templates were designed by means of a dual counting measure approach (unit and space counting) for both the HIC and overall visual categories. The templates were designed from general to specific. The individual company visual research data was categorized and entered into the corresponding individual research template. The templates were then divided into the three groups: UK, China A and China H firms., The statistics work was conducted separately for each group to produce the final summary template in which every defined item/category was given a summarized number. There are altogether nine types of visual template summary tables:

- Table 1 series: overall visual and HIC data summary by country, measured in units of occurrence and of space;
- Table 2 series: overall visual and HIC data summary by country and industry sector, measured in units of occurrence and of space;
- Table 3 series: overall visual and HIC data summary by industry sector, measured in units of occurrence and of space;
- Table 4 series: overall visual and HIC data: pure pictures with and without captions by country and industry sector, measured in units of occurrence and of

space

- Table 5 series: overall visual and HIC data: inserted pictures with and without captions by country and industry sector, measured in units of occurrence and of space;
- Table 6 series: overall and HIC related graphs and charts by country and industry sector, measured in units of occurrence and of space;
- Table 7 series: analysis of pictures into HIC functions by country and industry sector, measured in units of occurrence and in units of space;
- Table 8 series: analysis of portrait data summary by country and HIC category;
- Table 9 series: analysis of portrait data summary by industry sector.

Portrait templates also refer to Davison's (2010) visual portrait analysis framework which comprises four sets of rhetorical portraiture codes: physical (identification, physiognomy and stature); dress (social and cultural perspectives); interpersonal (body language and group portraits); and spatial (use of props, artefacts and settings). This paper created a specific portrait research template for the collection of relevant portrait data (see Appendix 4). Concretely, there are nine specific templates for different topics summarized in Table 8 and 9 series, namely:

- Table 8.1 – HIC visual data: analysis of overall portraits by country and by code (physical, dress, interpersonal, spatial);
- Table 8.2 – HIC visual data: overall analysis of structural capital (management) portraits by country and by code (physical, dress, interpersonal, spatial);

- Table 8.3 – HIC visual data: overall analysis of relationship capital (customers) portraits by country and by code (physical, dress, interpersonal, spatial);
- Table 8.4 – HIC visual data: overall analysis of human capital (employees) portraits by country and by code (physical, dress, interpersonal, spatial);
- Table 9.1– Banking/Financial Services sector: analysis of portraits by code (physical, dress, interpersonal, spatial);
- Table 9.2 – Logistics sector: analysis of portraits by code (physical, dress, interpersonal, spatial);
- Table 9.3 – Energy sector: analysis of portraits by code (physical, dress, interpersonal, spatial);
- Table 9.4 – IT sector: analysis of portraits by code (physical, dress, interpersonal, spatial);
- Table 9.5 – Retail sector: analysis of portraits by code (physical, dress, interpersonal, spatial)

The portrait templates were designed to explore the presentation of the investigated portrayal, to survey the differences in portrait presentation between three different groups and to discuss the likelihood of cultural influence on portraits associated with HIC in today's corporate annual reports from an international accounting perspective. The previously constructed theoretical framework and literature review provided a conceptual interpretation for the analysis of the portrait data. Sample blank analysis templates are provided in Appendix 4.

Chapter 4: Overall country and industry sector findings

4.1 Introduction

This chapter discusses the overall comparative findings by country – UK and China including Hong Kong (H) and mainland (A) – and for five industry sectors – Banking/Financial Services, Logistics, Energy, IT/Telecom, and Retail. The collected visual data tables show two groups of information: overall visual data subdivided into (i) all visual material and (ii) the subset of visual material related to HIC. The visual data is categorized into pictures and graphs/charts and is measured using two approaches, namely: unit and space counting.

4.2 Visual material by country groups

4.2.1 Overall visual data findings [Tables 1.1 & 1.2]

Table 1.1 – Overall visual data summary by country measured by units of occurrence								
	Pictures			Total pictures	Graphs/charts	Total	Total pages	Average unit per page
	Photos	Non-photos	Mixed pictures					
UK	1876	306	4	2186	1108	3294	7854	0.41
China H	1198	190	36	1435	345	1780	9415	0.18
China A	379	63	4	446	177	623	9835	0.06

Table 1.2 – Overall visual data summary by country measured by units of space								
	Pictures			Total pictures	Graphs/ charts	Total	Total pages	Average space per page
	Photos	Non-photos	Mixed pictures					
UK	301	26	1	328	133	461	7854	0.05
China H	236	91	21	348	83	431	9415	0.04
China A	71	26	3	100	35	135	9835	0.01

Key: H: Hong Kong firms A: Mainland Chinese firms

The main overall visual data findings for the country groups are as follows.

Firstly, the UK firms are ranked as having the highest volume of visual material by a wide margin, followed by the China H firms and finally the China A firms. The UK firms produce on average 0.41 units and 0.05 pages of visual materials per page; the China H firms 0.18 units and 0.04 pages and the China A firms 0.06 units and 0.01 pages of visual materials per page. However, the ranking in terms of total page volume is reversed, from the China A down to the UK firms, which highlights the different proportions of visual content between the countries. This much greater volume of visual material in the UK company reports is in agreement with the theoretical framework, which suggests that western firms are more business-aware and use more impression management in their annual reports. Also, the UK firms are a of more multinational nature and visual materials communicate more easily across different languages and cultures than written text. In Hong Kong, a middle ground emerges that is in line with Hong Kong’s hybrid orientation between west and east;

yet Hong Kong remains closer in its practices to China and the orient than it does to the UK and the west.

Secondly, all groups use more photographs and pictures than graphs. This finding is in line with the work of Davison and Skerratt (2007) based on the 2002 FTSE 100 UK annual reports. There is already a significant corpus of work on graphs – see Beattie and Jones' (2008) review paper. These findings indicate that more research is needed on photographs and pictures.

Thirdly, measured both in units and in space, the UK firms use more graphs/charts than the Chinese both in terms of absolute numbers and percentage. Again, this indicates that UK firms possess a greater awareness of the effectiveness of visual media, and have a greater propensity to use impression management tools.

4.2.2 Human intellectual capital visual data findings [Tables 1.3 & 1.4]

Table 1.3 – Overall HIC visual data summary by country measured by units of occurrence								
	Pictures			Total Pictures	Graphs/ charts	Total	Total pages	Average units per page
	Photos	Non-photos	Mixed pictures					
UK	1409	26	3	1438	198	1636	7854	0.21
China H	814	9	24	847	63	910	9415	0.09
China A	271	0	0	271	26	297	9835	0.03

Table 1.4 – Overall HIC visual data summary by country measured by units of space								
	Pictures			Total pictures	Graphs/ charts	Total	Total pages	Average space per page
	Photos	Non-photos	Mixed pictures					
UK	230	2	0.21	232	22	254	7854	0.03
China H	131	3	9	143	19	162	9415	0.01
China A	46	0	0	46	11	57	9835	0.01

Key: H: Hong Kong firms A: Mainland Chinese firms

These tables show results measured by units of space rather than by occurrences. Again, the same ranking emerges, with UK firms using the highest volume of visual material to communicate HIC, followed by China H firms, and China A firms. The proportion of photographs related to HIC is much higher than that of graphs/charts across all country groups, and it is much higher in proportion than overall visual material. This indicates that photographs are deemed to be an effective vehicle for the

portrayal of human capital. Again, the UK companies use more graphs/charts than their Chinese counterparts.

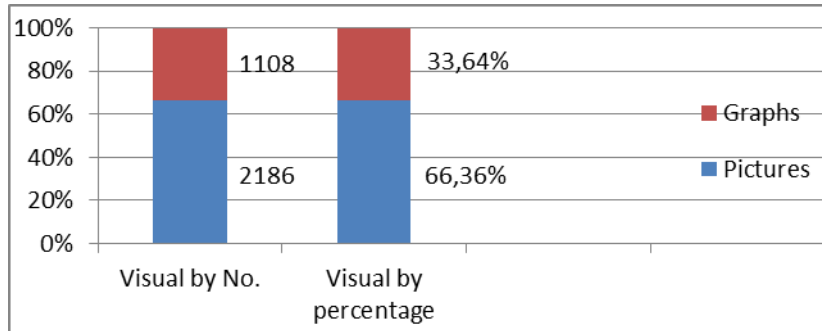
Further, the results in Table 1 show the high proportions of visual materials that are related to HIC. In the UK, 1,409 out of 1,876 occurrences of photographs (75%) relate to human capital. Overall, about half the average UK unit occurrences (0.21 out of 0.41, relate to human capital. The proportions are very similar in Hong Kong (68%) and mainland China (71%), with about half the average unit occurrences relating to human capital in both cases. However, the proportions are much lower in the case of graphs and charts (18% in the UK, 18% in Hong Kong, 15% in mainland China). It is interesting to note that the proportions are fairly stable across countries.

4.2.3 Detailed analysis of tables [Tables 1.1 to 1.4]

Detailed analysis of Table 1.1 - overall visual data summary by country in occurrence

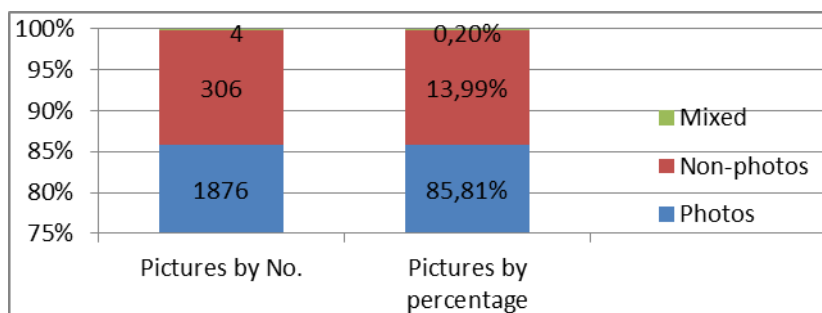
The UK firms' total general visual data collected in Table 1.1 show 3,294 overall units of visual data occurrences in the UK firms, or an average 0.41 units of visual items per page. The pictures category is twice as big as the graphs/charts one, with an absolute number of 2,186 units against 1,108, or a proportion of 66.36% of the total visual data against 33.64%. This conforms to the findings of Davison and Skerratt (2007).

Graph 1: The measurements of pictures and graphs/charts in the visual communication of the UK firms' annual reports



Taking a closer look at the data from the pictures subcategories, it can be clearly seen that the number of photographs is 1,876 (85.81%), followed by non-photographs with 306 (13.99%) and mixed pictures with 4 (0.20%). Photographs are clearly the most popular visual material used for visual communication. The proportions between them can be demonstrated in the following Graph 2.

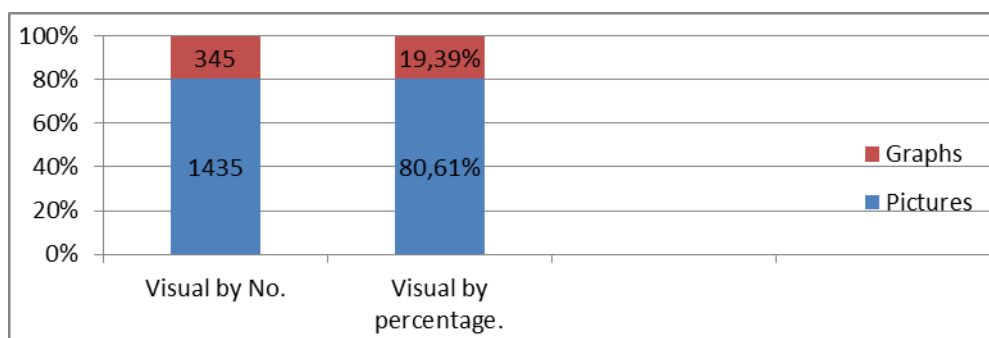
Graph 2: The proportions of pictures in the UK firms' annual reports



The China H group produced 1,780 visual units of occurrence in total, including 1,435 units of pictures (80.61%) and 345 units of graphs/charts (19.39%). There are over four times as many pictures as graphs, showing that graphs/charts are less used in

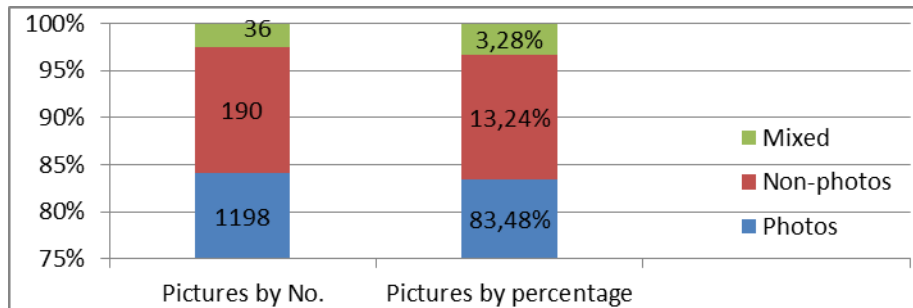
Hong Kong firms' annual reports than they are in those of the UK firms. The data proportions between them is shown visually in the following Graph 3

Graph 3: The proportions between pictures and graphs/charts in the visual communication of the Chinese H annual reports



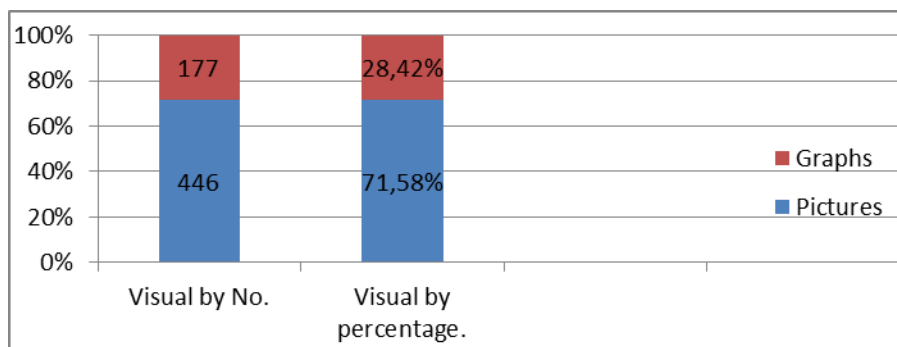
Like the UK firms, the Hong Kong firms use more photographs (83.48%) than other pictures; the total number of photographs is 1,198, followed by 190 non-photographs and 36 mixed pictures. In percentage terms, the shares are accordingly 83.48% for photographs, 13.24% for non-photographs and 3.28% for mixed pictures. This is illustrated in the following Graph 4. The UK firms' annual reports feature more photographs than those of the Hong Kong firms. The number of non-photographs produced by the UK firms is also much larger than that of China H ones. However, there is no obvious difference between them in percentage terms. On the other hand, in terms of mixed pictures, China H firms produce much more of these both in number and percentage than UK firms. This implies that the Hong Kong firms' annual reports reflect the combined western and oriental influence in their mix of subjective decoration mixed with factual visual communication.

Graph 4: The proportions between types of pictures in the China H firms' annual reports



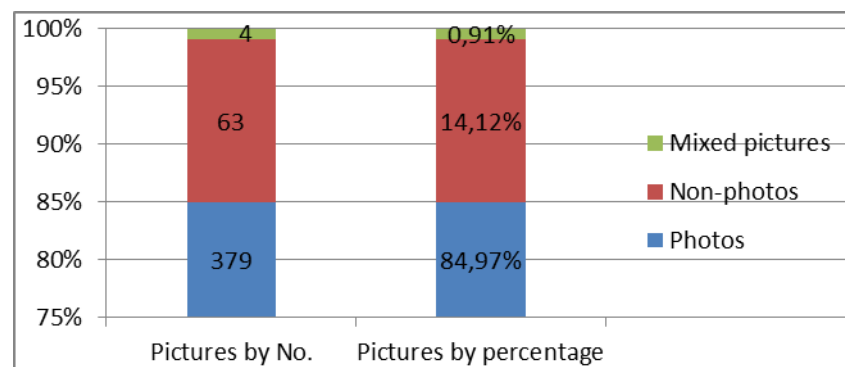
China A firms produce the least visual data, as shown in Table 1.1. The number of total visual occurrences is only 623, which is only one third of those produced by the China H group and one fifth of those produced by the UK firms. There are 446 pictures (71.58% of the total visual usage) and 177 graphs (28.42% of overall visual usage). This can also be visually demonstrated in the following Graph 5. However, it produces the biggest volume of pages of 9,835 in total.

Graph 5: The difference between pictures and graphs/charts in visual communication in the China A firms' annual reports



Among the pictures of the China A firms' annual reports, as shown in the following Graph 6, photographs are the most used, with 379 occurrences and percentage of 84.97%, followed by 63 non-photographs (14.12%) and 4 mixed pictures (0.91%). Similar to the application of photographs in the annual reports of the UK and Hong Kong firms, photographs are also the most popular visual form used by China A firms.

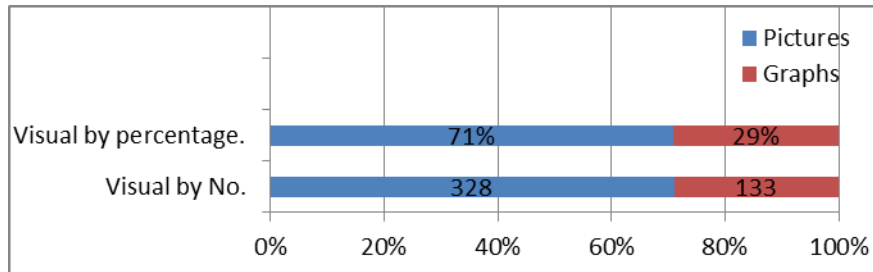
Graph 6: The proportions of pictures in the China A firms' annual reports



Detailed analysis of Table 1.2 – Overall visual data summary by country in terms of space

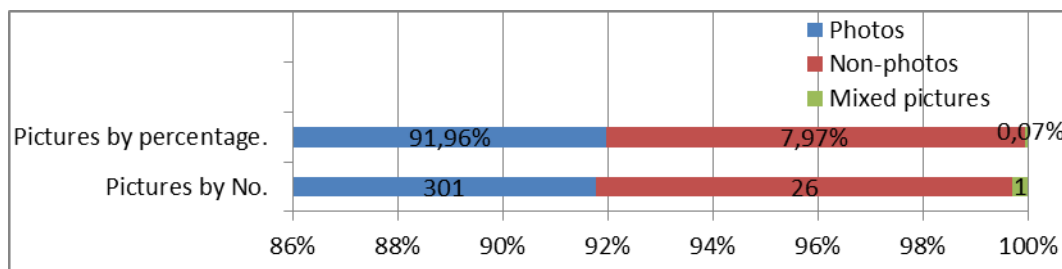
We see similar trends when we measure the units of space. Table 1.2 shows that the UK firms altogether produce 461 pages of overall visual, occupying on average 0.06 of a page. There are 328 pages of pictures (71%) and 133 pages of graphs/charts (29%), again indicating a preference for the former. These trends can be shown in the following Graph 7.

Graph 7: The proportions between pictures and graphs/charts of the UK firms in visual space counting



Among the pictures, the total area occupied by photographs is on average of 301 pages, followed by non-photographs with an average of 26 pages and mixed pictures with an average of 1 page. Similar to the visual occurrence count, photographs make up 91.96%, non-photographs 7.97% and mixed pictures only 0.07%. The proportions between them are shown in Graph 8.

Graph 8: The proportions between the three kinds of pictures of the UK firms in visual space counting by No. and percentage. (Units represent pages)

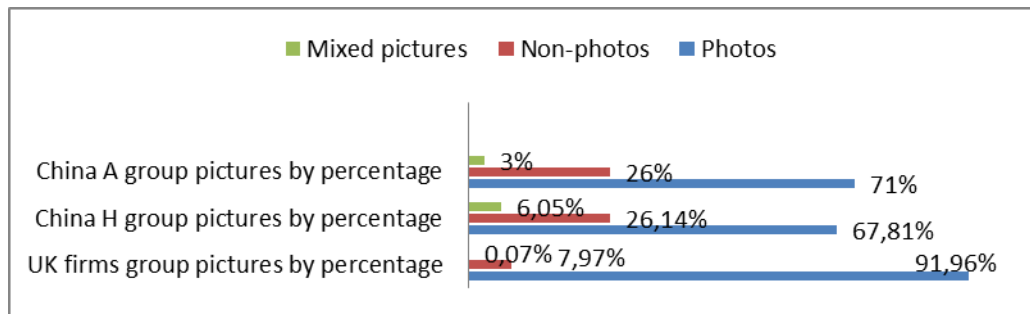


The China H group produces 431 pages of pictures and graphs/charts, occupying on average 0.04 of a page, clearly less than the UK firms. There are 348 pages of pictures,

more than the absolute volume of the UK firms, and 83 pages of graphs/charts. Pictures constitute 80.74% of the overall visual material, more than the UK firms, and graphs constitute 19.26% of the same. Comparatively, the China H firms produce more pages of pictures overall than the UK ones, which shows that, in terms of space, pictures are more widely used in the China H firms' annual reports. Nevertheless, the Chinese H firms produces only 236 pages of photographs (67.81% of total pictures), which is a distinctly smaller proportion than that of the UK firms, 91 pages of non-photographs (26.14%) and 21 pages of mixed pictures (6.05%). Apparently, photographs are still much more widespread in the UK firms' annual reports than they are in those of the China H firms. However, the Chinese H firms have a preponderance of non-photographs and mixed pictures, again indicating their openness to the dual influences of east and west.

The China A firms have the lowest volume (134 pages) of visual material, including an average of 35 pages of graphs/charts and of 100 pages of pictures (which consist of 71 pages of photographs (71%), 26 pages of non-photographs (26%) and 3 pages of mixed pictures (3%). The comparative representation of the picture types produced by the three groups, measured in units of space, can be seen in Graph 9.

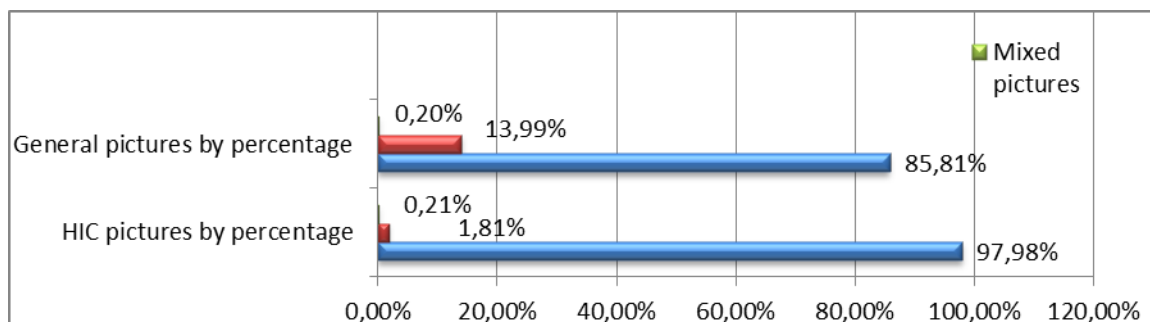
Graph 9: The proportions of the three kinds of pictures between the three country groups by percentage of visual space presentation



Detailed analysis of Table 1.3 – HIC visual data summary by country by occurrence.

As shown in Table 1.3, the UK firms produce 1,409 units of photographs, 26 units of non-photographs, and 3 units of mixed pictures relating to HIC, for a total of 1,438 units of HIC visuals, amounting to 87.90% of overall visual material. The three subcategories are ranked by proportion as: 97.98% photographs, 1.81% non-photographs and 0.21% mixed pictures. The proportion of photographs related to HIC is much higher than that of general visual photographs. This indicates that photographs are regarded as the most effective means of communicating HIC. This comparison is illustrated in the following Graph 10.

Graph 10: Comparison between HIC and general visual pictures of the UK firms by percentage



Furthermore, the HIC graphs/charts numbered 198 units, or 17.87% of the total UK visual graphs/charts. This means that pictures are far more widely used to communicate HIC. Graphs are only used in 12% of cases to show HIC, as compared to 33% of general visual data.

The China H firms generated 814 units of photographs, 9 units of non-photographs and 24 units of mixed pictures, adding up to 847 units of HIC pictures in total, equivalent to a proportion of 59.02% of the overall pictures, which is obviously smaller than that of the UK firms. This also reveals that the photographs are far more commonplace in terms of the occurrence of pictures in the UK firms' annual reports than they are in those of the China H firms.

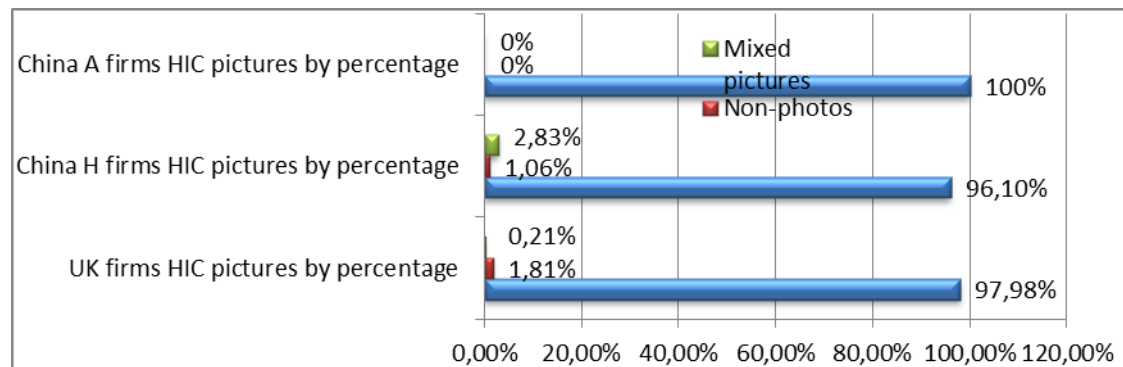
Among the pictures, photographs represent a percentage of 96.10%, followed by 1.06% of non-photographs and 2.84% of mixed pictures. Comparatively, photographs have a similar average relevance in the annual reports of both the UK and China H firms, although the former recorded a slightly higher level. In any case, the UK firms prefer to employ more non-photographs, while the China H ones tend to employ more mixed pictures.

Also, as is the case for the UK firms, graphs/charts are much less used for HIC than they are for general communication. The Hong Kong firms produce 63 occurrence units of HIC related graphs/charts, or 18.26% of the overall graphs/charts,

substantially smaller than the percentage of HIC pictures (59.02% of overall pictures), which is similar to the trend shown by the UK firms, indicating that pictures are also preferred by China H firms to communicate HIC. Thus, the total HIC visual count is 910, 51.12% of the overall visual volume.

The China A firms follow a similar pattern, but use only photographs as a form of picture. In general the visual volume produced by China A firms is much smaller than that of the other two groups. The comparative results are shown in the following Graph 11.

Graph 11: The comparison between HIC pictures between the three country groups

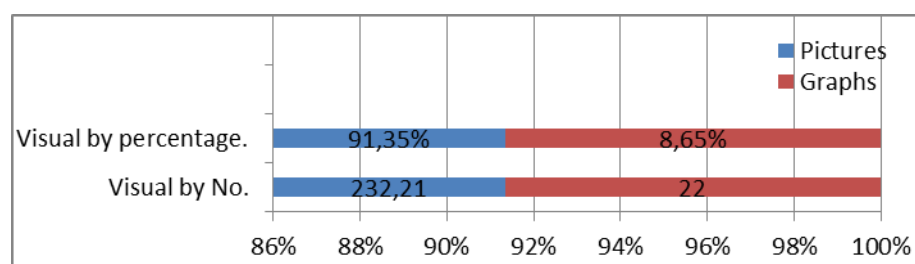


Detailed analysis of Table 1.4 – Overall HIC visual data summary by country in terms of space

As shown in Table 1.4, the UK firms’ annual reports have on average 254 pages of HIC related visual material, with an absolute preponderance over the other two country groups. This visual material includes 232 pages of pictures (91.35%) and 22

pages of graphs/charts (8.65%). Again, pictures are far more widely used to communicate HIC than graphs/charts. The proportions between them are shown in the following Graph 12.

Graph 12: The proportions between pictures and graphs/charts in the HIC visuals of the UK firms (Units are expressed in pages).



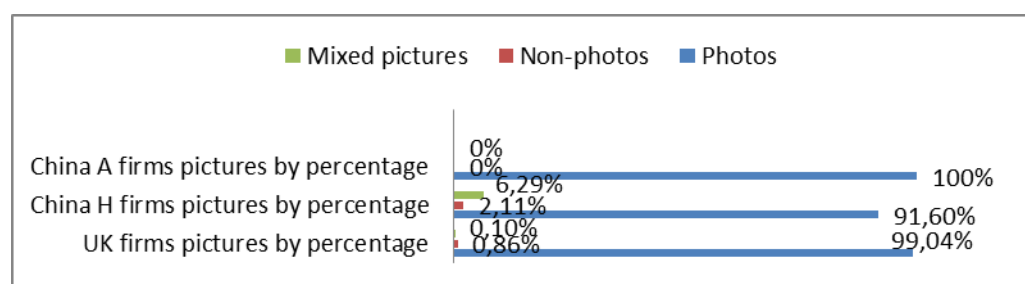
The UK firms produce on average 230 pages of photographs, 2 pages of non-photographs and 0.21 pages of mixed pictures. The picture proportions are ranked accordingly as: 99.04%, 0.86% and 0.1%. It is again apparent that photographs occupy far more page space than the other two types of pictures in HIC visual communication.

The China H firms produce on average 162 pages of HIC visual material, consisting of 143 pages of pictures and 19 pages of graphs/charts. Pictures represent 88.27% and graphs/charts 11.73% of the total. Comparatively, the UK firms recorded a larger proportion of pictures and a smaller one of graphs/charts, which reveals that pictures are more commonplace in the UK firms' annual reports; however, graphs/charts are more widespread in the annual reports of the China H firms.

Among the types of pictures, photographs are the most widely used, with 131 pages (91.60%), followed by mixed pictures with 9 pages (6.29%), and non-photographs with 3 pages (2.11%). Likewise, photographs are the most widely used type of picture by the China H firms. However, mixed pictures are more common in the China H firms' annual reports than they are in those of the UK ones.

Similar to the situation of the units of occurrence, the China A firms produce the smallest number of pages of HIC. On average, only 46 pages of HIC photographs and 11 pages of HIC graphs/charts were used. The proportions of the three types of pictures between the three country groups are illustrated in the following Graph 13.

Graph 13: Proportions of three types of human capital pictures between the three country groups



There are therefore some congruent trends of the visual communication in the annual reports of these three country groups. Pictures are far more extensively used than graphs/charts to communicate the intellectual capital; these findings are in line with the research done on UK annual reports by Davison and Skerratt (2007). Additionally, photographs are far more widespread in communicating HIC than non-photographs

and mixed pictures.

Again, the UK firms show an absolute preponderance of visual communication over Chinese firms both in terms of units of occurrence and of space. This is particularly the case for photographs but also, to a lesser degree, for non-photographs. However, China H firms produce more pages of non-photographs and mixed pictures than UK firms, which again indicate their openness to the dual influences of both east and west.

4.3 Visual material by country and industry sector

4.3.1 Overall visual data findings [Tables 2.1 & 2.2]

Table 2.1 – Overall visual data summary by country and industry sector measured by units of occurrence								
	Pictures			Total pictures	Graphs/ charts	Total	Total pages	Average unit per page
	Photos	Non-photos	Mixed pictures					
Banking/Financial Services								
UK	423	6	3	432	371	803	2483	0.32
China H	322	38	0	360	169	529	2605	0.20
China A	225	21	0	246	118	364	2836	0.13
Logistics								
UK	382	49	0	431	220	651	1517	0.43
China H	120	7	11	138	62	200	1779	0.11
China A	41	11	3	55	14	69	1922	0.04
Energy								
UK	288	80	1	369	219	588	1407	0.42
China H	215	41	4	260	55	315	1949	0.16
China A	43	26	0	69	15	84	1956	0.04
IT/Telecom								
UK	240	85	0	325	125	450	1368	0.33
China H	263	15	0	289	15	304	1627	0.19
China A	55	2	0	57	17	74	1631	0.05
Retail								
UK	543	86	0	629	173	802	1079	0.74
China H	278	89	21	388	44	432	1455	0.30
China A	15	3	1	19	13	32	1490	0.02

Table 2.2 – Overall visual data summary by country and industry sector measured by units of space								
	Pictures			Total pictures	Graphs/ charts	Total	Total pages	Average space per page
	Photos	Non-photos	Mixed pictures					
Banking/Financial Services								
UK	70	2	0.21	72	44	116	2483	0.05
China H	57	18	0	75	33	108	2605	0.04
China A	42	11	0	53	23	76	2836	0.03
Logistics								
UK	77	11	0	88	24	112	1517	0.07
China H	32	4	8	44	13	57	1779	0.03
China A	9	2	2	13	3	16	1922	0.01
Energy								
UK	49	8	1	58	31	89	1407	0.06
China H	36	23	3	62	15	77	1949	0.04
China A	3	10	0	13	3	16	1956	0.01
IT/Telecom								
UK	37	2	0	39	15	54	1368	0.04
China H	57	1	0	58	9	67	1627	0.04
China A	10	0.87	0	11	3	14	1631	0.01
Retail								
UK	67	3	0	70	19	89	1079	0.08
China H	53	45	10	108	13	121	1455	0.08
China A	6	1	1	8	3	11	1490	0.01

These tables show results by sector as well as by country, to see whether there is an influence linked to sector rather than to country. The ranking of overall usage shown in Table 2.1 and Table 2.2, measured in units of occurrence and space, remains the same.

4.3.2 Human intellectual capital visual data findings [Tables 2.3 & 2.4]

Table 2.3 – HIC visual data summary by country and industry sector measured by units of occurrence								
	Pictures			Total Pictures	Graphs/ charts	Total	Total pages	Average unit per page
	Photos	Non-photos	Mixed pictures					
Banking/Financial Services								
UK	369	0	3	372	94	466	2483	0.19
China H	274	0	0	274	41	315	2605	0.12
China A	169	0	0	169	19	188	2836	0.06
Logistics								
UK	291	20	0	311	35	346	1517	0.22
China H	41	0	5	46	7	53	1779	0.03
China A	4	0	0	4	4	8	1922	0.01
Energy								
UK	233	5	0	238	33	271	1407	0.19
China H	147	5	2	154	7	161	1949	0.08
China A	39	0	0	39	0	39	1956	0.01
IT/Telecom								
UK	166	0	0	166	21	187	1368	0.13
China H	190	1	0	191	1	192	1627	0.12
China A	49	0	0	49	2	51	1631	0.03
Retail								
UK	350	1	0	351	15	366	1079	0.34
China H	162	3	17	182	7	189	1455	0.13
China A	10	0	0	10	1	11	1490	0.01

Table 2.4 – HIC visual data summary by country and industry sector measured by units of space

	Pictures			Total pictures	Graphs/ charts	Total	Total pages	Average unit per page
	Photos	Non-photos	Mixed pictures					
Banking/Financial Services								
UK	66	0	0.21	66	10	76	2483	0.03
China H	36	0	0	36	13	49	2605	0.02
China A	28	0	0	28	10	38	2836	0.01
Logistics								
UK	51	2	0	53	3	56	1517	0.04
China H	9	0	2	11	2	13	1779	0.01
China A	0.4	0	0	0.4	0.91	1	1922	0.001
Energy								
UK	37	0.16	0	37	5	42	1407	0.03
China H	17	1	0.66	19	2	21	1949	0.01
China A	3	0	0	3	0	3	1956	0.001
IT/Telecom								
UK	26	0	0	26	2	28	1368	0.02
China H	33	0	0	33	0.11	33	1627	0.02
China A	8	0	0	8	0.43	8	1631	0.01
Retail								
UK	49	0.05	0	49	2	51	1079	0.05
China H	36	2	6	44	2	46	1455	0.03
China A	6	0	0	6	0.16	6	1490	0.004

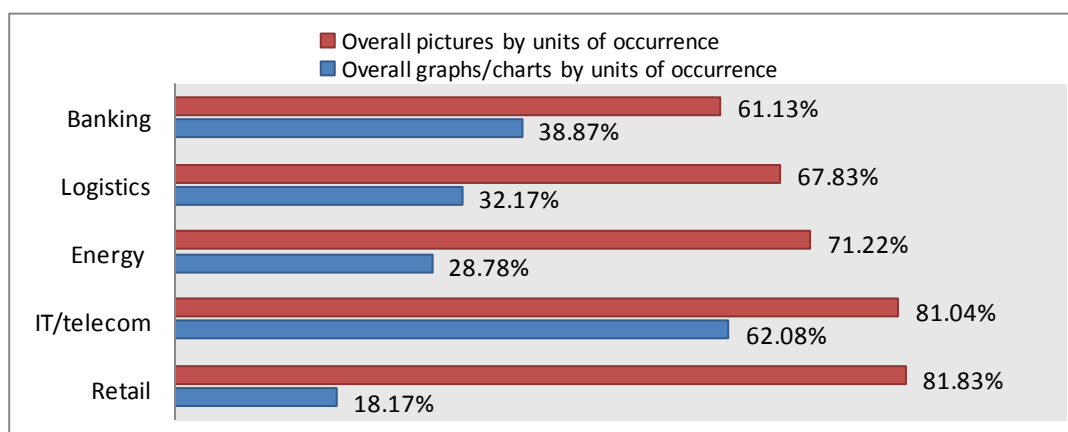
Turning to the HIC visual material data shown in Tables 2.3 and 2.4, the same rankings again emerge, measured both in units of occurrence and of space.

Briefly, the collected data in the Table 2 series is about the distribution of pictures and graphs/charts in different industry sectors by country. The main findings are summarized as follows.

1) The following Graph 14 shows the ranking of the proportions between overall pictures and overall graphs/charts between different industries sectors across all countries. Retail has the widest gap of 63.66% between overall pictures (81.83%) and overall graphs/charts (18.17%); followed by, Energy, 42.44% of gap between overall pictures (71.22%) and overall graphs/charts (28.78%); Logistics, 35.66% of gap between overall pictures (67.83%) and overall graphs/charts(32.17%); Banking/Financial Services, 22.26% of gap between overall pictures (61.13%) and overall graphs/charts(38.87%) and IT/Telecom, 18.96% of gap between overall pictures (81.04%) and overall graphs/charts (62.08%). The above ranking indicates that both UK and Chinese Banking/Financial Services are making full use of both pictures and graphs/charts in their annual reports compared to the other sectors, in which pictures are obviously more widespread and graphs/charts are greatly less commonplace. 2) The gap between the proportions of pictures by industry is apparently smaller than that between those of the graphs/charts, which reveals that both UK and Chinese firms prefer to use pictures rather than graphs/charts, and yet

the UK firms show a much greater awareness regarding the use of graphs/charts in their annual reports than the Chinese ones. The comparative proportion analysis on the differences between pictures and graphs/charts by sector is illustrated in the following Graph 14.

Graph 14: Proportions between overall pictures and overall graphs/charts by percentage

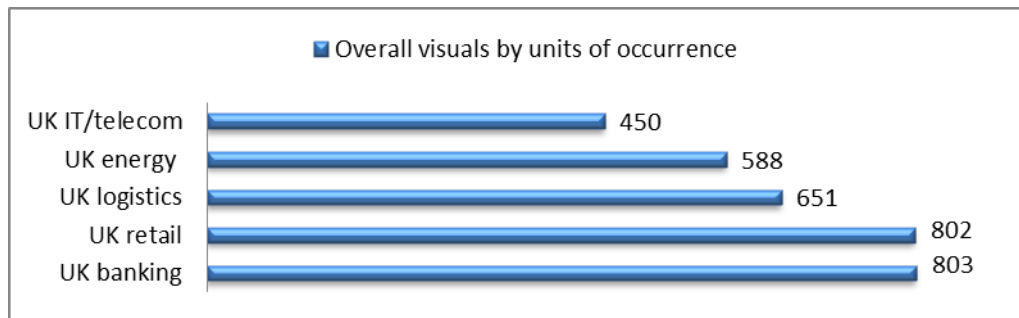


4.3.3 Detailed analysis of tables [Tables 2.1 to 2.4]

Detailed analysis of Table 2.1 – Overall visual data summary by country and industry sector in terms of occurrences

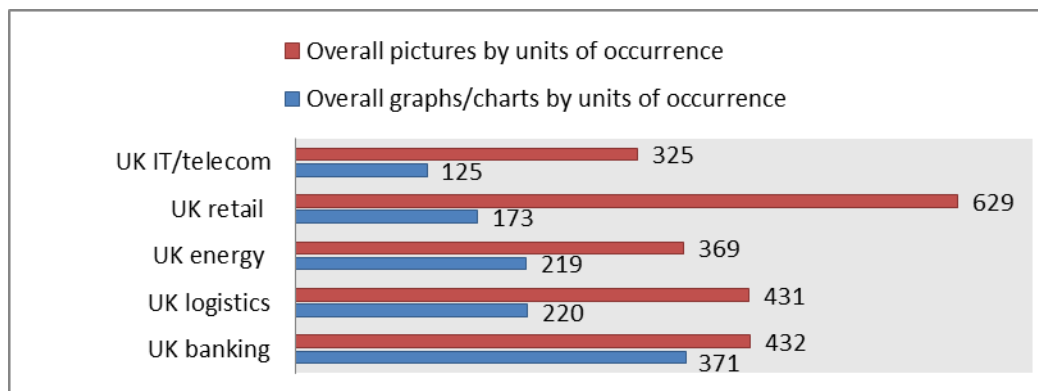
The trends of visual communication by country shown in Table 2.1 are in agreement with those shown in Table 1.1. The key point here is focused upon the sector analysis. For the UK firms, Banking/Financial Services produces a total of 803 units of occurrences of visuals, the highest number of all five sectors, followed by Retail with 802, Logistics with 651, Energy with 588 and IT/Telecom with 450 units. The ranking can be seen in the following Graph 15.

Graph 15: The overall visual ranking of the five UK industry sectors



With regard to graphs/charts, UK Banking/Financial Services still leads with 371 units, followed by Logistics with 220, Energy with 219, Retail with 173 and IT/Telecom with 125 units. Complementarily, UK Retail produces a total of 629 units of pictures –, the biggest number of all – followed by Banking/Financial Services with 432, Logistics with 431, Energy with 369 and IT/Telecom with 325 units. The comparison between the pictures and graphs/charts within the five UK sectors is shown in Graph 16.

Graph 16: The comparison of overall graphs/charts and pictures between the five UK industry sectors

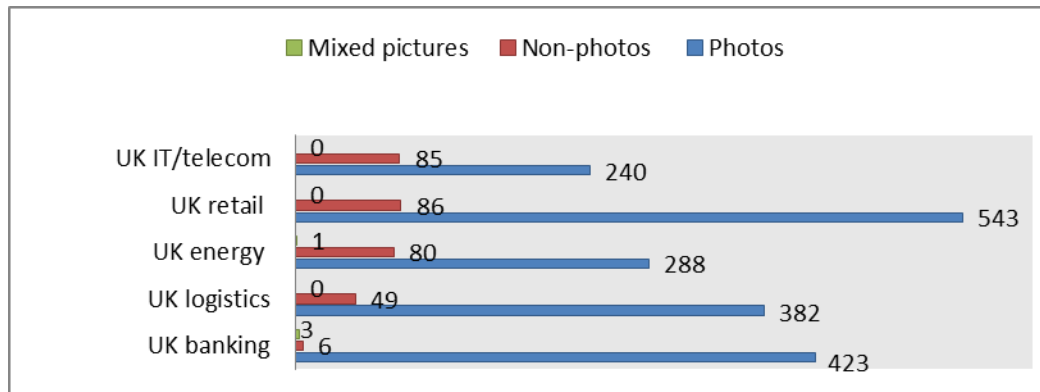


It is clearly perceived that pictures are always far more common than graphs/chart in all sectors. Banking/Financial Services is the keenest to use visuals to convey the intangibles information to the users of annual reports. However, there is a substantial gap between Retail and the other sectors, indicating that pictures are considered especially effective in this sector; most likely for the purpose of sale promotions, as Retail currently has such a wide range of different types of customers and specific products on the high street frontline.

Among the overall pictures, Retail produces 543 units of photographs – the highest number of all sectors – corresponding to 86.3% of its total pictures, followed by Banking/Financial Services with 432 (97.91%), Logistics with 382 (88.63%), Energy with 288 (78.05%) and IT/Telecom with 240 units (73.85%).

The amount of non-photographs for the five sectors is ranked from top to bottom as: 86 units for Retail, 85 for IT/Telecom, 80 for Energy, 49 for Logistics and, lastly, 6 units for Banking/Financial Services. Furthermore, the only sectors to produce mixed pictures are Banking/Financial Services (3 units) and Energy (1 unit). The comparative study of the three types of pictures is presented in Graph 17.

Graph 17: The comparison of the three types of pictures among the five UK industry sectors in units of occurrence

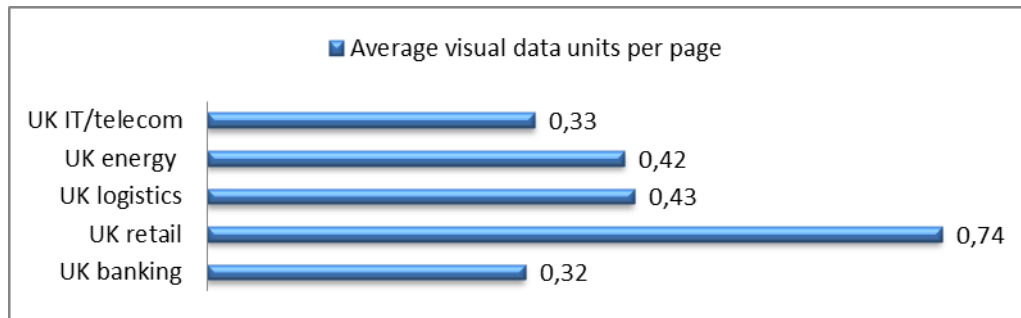


The comparative study shows that photographs are the most powerful and popular type of picture, as they are used by all the selected UK industry sectors for the communication of commercially goal-directed intangibles. Non-photographs still get more usage than mixed pictures, which indicates that UK firms tend to use non-photographs to convey significantly complementary concepts that cannot be attained by photographs – such as more profound impressions, more imaginative themes, more casual flexibility and more subjective attachments. An example of these could be the human aesthetics and spirituality that can be expressed through artistic visual creations but never ever by means of digital devices.

Measuring visual volume by the average number of units of visual data per page referred to the total number of pages, Retail ranks first with an average of 0.74 units of visuals per page, followed by Logistics with 0.43, Energy with 0.42, IT/Telecom with 0.33 and Banking/Financial Services with 0.32 units. This can also be seen in

Graph 18.

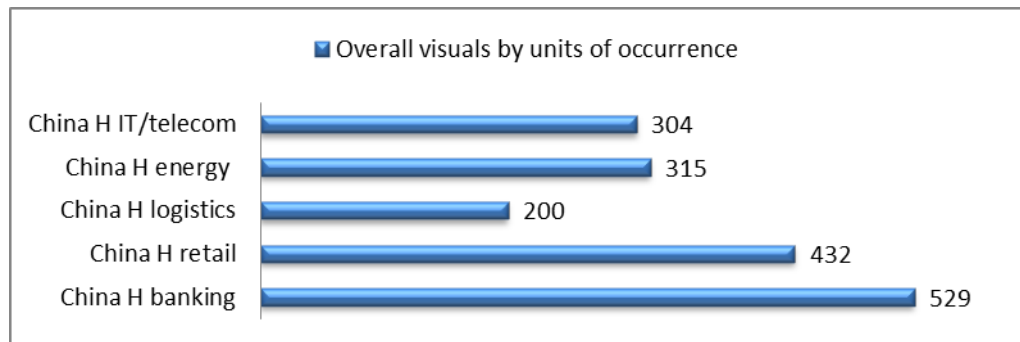
Graph 18: The ranking of visuals for the five UK industry sectors by average number of visual data units per page.



In comparison to UK firms, respectively and accordingly, unit totality that each China H sector produces is apparently less than that of homogeneous UK sector, which is consistent with the general gap of overall visual between them.

Among the China H sectors, Banking/Financial Services generates the biggest volume, with 529 visual units, followed by Retail with 432, Energy with 315, IT/Telecom with 304, and Logistics with 200 units. The comparative study shows that the Banking/Financial Services and Retail sectors are far more productive and keen in their use of visuals for the communication of intangibles than the others in both the UK and China H firms. The obvious difference between these two countries is that IT/Telecom has the lowest usage of visuals in the UK sector ranking, while the same position is held by Logistics in that of China H. The China H sector ranking is shown in the following Graph 19.

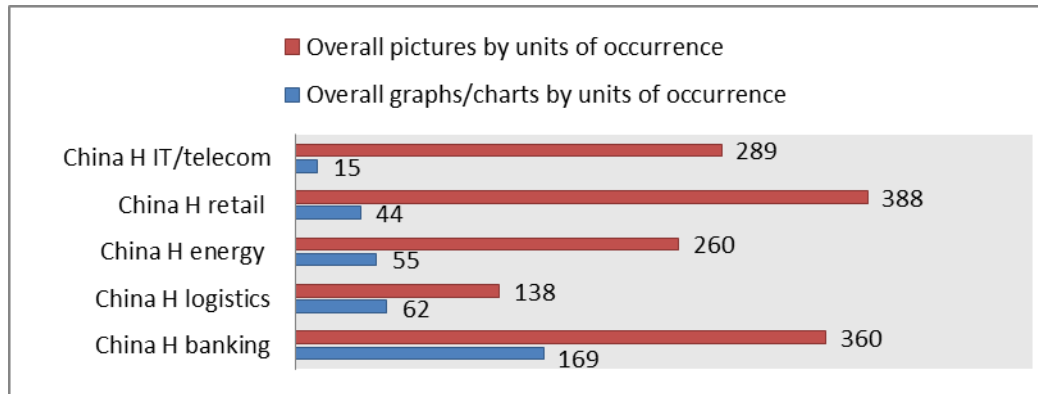
Graph 19: The ranking of overall visuals for the five China H industry sectors in units of occurrence



Narrowing the study down to pictures and graphs, the following Graph 19 shows that China H Banking/Financial Services produce the highest volume of units of graphs/charts with 169, followed by the 62 units of graphs/charts of Logistics, the 55 of Energy, the 44 of Retail and the 15 units of graphs/charts of IT/Telecom. Similar to the UK sectors, graphs/charts are predominantly used in China H Banking/Financial Services, Logistics and Energy.

However, with regard to pictures, Retail produces the biggest volume, with 388 units, followed by Banking/Financial Services with 360, IT/Telecom with 289, Energy with 260 and Logistics with 138 units. As is the case for the UK sectors, China H Retail produces the most pictures of all sectors, followed by Banking/Financial Services. This result clearly signals that Retail and Banking/Financial Services in both the UK and China H samples tend to use picture impression management to take the attention of annual report users for commercial purposes and intangibles value enhancement.

Graph 20: The comparison of overall graphs/charts and pictures among the five China H industry sectors

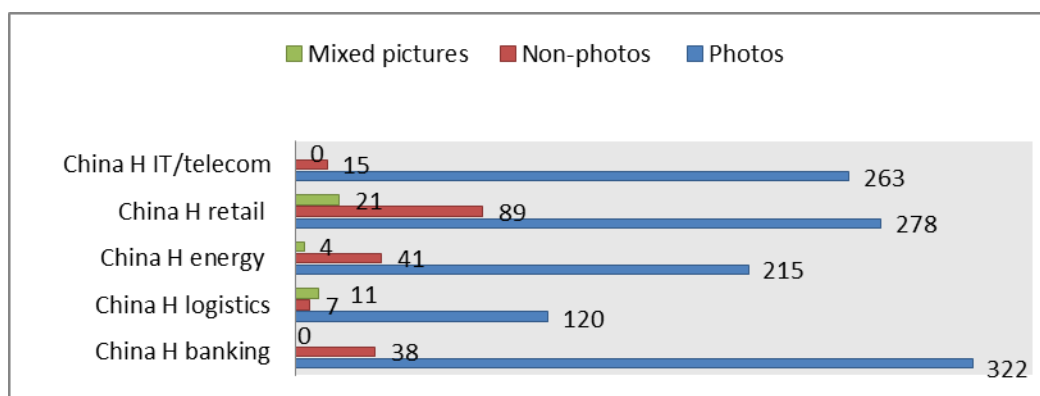


To study picture structures, the following Graph 21 shows that China H Banking/Financial Services generates the largest amount with 322 units of photographs, followed by Retail with 278, IT/Telecom with 263, Energy with 215, and Logistics with 120 units. In comparative terms, photographs are most used in the China H Banking/Financial Services sector and in the UK Retail one. The difference between them could be due to their internationalization levels. The Banking/Financial Services business in China H is performing and spreading mostly on the international scene in its pursuit of global investment. The UK, on the other hand, is a developed country with an advanced international and a highly globalised domestic environment in which business frontline industries like Retail, Banking/Financial Services, etc. are highly active and thriving as they directly face a wide range of human capital. Evidently, this further proves the promotional documental power of photographs – versus other visual materials – in the contemporary business-driven society and world.

Non-photographs are more prevalent in the China H Banking/Financial Services and Retail sectors than in the corresponding UK ones; conversely, they get more preference in the UK's IT/Telecom, Energy and Logistics sectors than they do in those of China H, although the UK Retail sector produces nearly the same quantity of non-photographs as does the corresponding China H sector. This uncovers the fact that non-photographs can serve an important complementary and assistance function to cover for the lack in soft power of photographs.

The China H sectors always show a stronger awareness than the UK ones regarding the use of mixed pictures to assist the presentation of visuals.

Graph 21: The comparison of the three types of pictures between the five China H industry sectors by occurrence



Compared to the previous two, the China A sectors are less active in producing visual material. In overall visuals, Banking/Financial Services produces 364 units in total,

the largest number of all, followed by Energy with 84, IT/Telecom with 74, Logistics with 69 and Retail producing 32 units. Likewise, China A Banking/Financial Services is keen to use visual communication, whereas the other China A sectors show a greatly reduced use of visuals compared to the other country samples. This may be due to users of China A annual reports being mainly focused upon the domestic stage; furthermore, China A's domestic financial reporting regulations not being in line with international financial standards (IFS) and cost reduction being a significant factor. However, China H annual reports produce far more visuals than China A ones in most aspects. This may be since China H annual reports face a greatly wider range of users from not only the domestic scene but also from the global one. Hong Kong is a highly internationalized city where special economic and political promotional policies are in force and financial reporting rules are kept closely in line with international financial reporting standards. Hong Kong business is also highly competitive and has a modern commercial awareness, especially in intangibles, visual branding and value creation.

Detailed analysis of Table 2.2 – Overall visual data summary by country and industry sector in terms of space

Table 2.2 shows the measurement of the overall visual data in terms of space. It can be seen that Banking/Financial Services is dominant in volume of pages of visual material produced. The UK firms produce a higher volume of visual pages than China H ones in Banking/Financial Services, Logistics and Energy. Conversely, China H firms have the edge in term of visual pages in Retail and IT/Telecom. China A firms

produce the smallest volume of visual pages in all sectors.

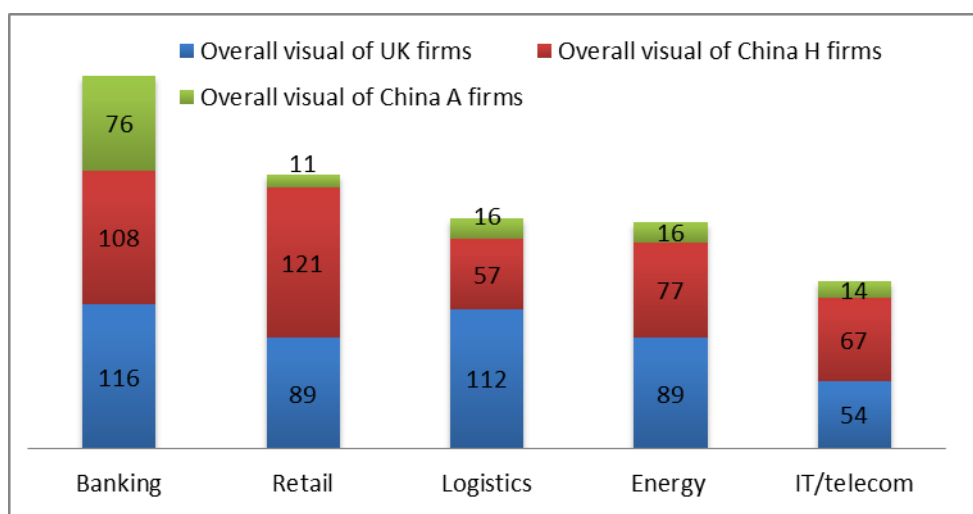
We get somewhat different results when we look at the occurrence ranking in terms of unit counting, in which the UK firms are dominant in all five sectors. This reveals that:

- 1) UK Retail prefers to employ an occurrence approach to promote its visual communication to present the highest possible quantity of visual items;
- 2) Visual space impression management is more emphasized in the China H Retail and IT/Telecom sectors than it is in the corresponding UK ones;
- 3) China H firms prefer to use space presentation rhetoric to address accounting intangibles communication, which implies a preference for a spatial approach for quality, through which the importance of visual items can be more strongly reinforced and more effectively impressed;
- 4) China A firms show less initiative and less space-awareness in overall visual space presentation.

As shown in Table 2.2, based on the absolute number of pages, the UK industry sectors' ranking of total visuals measured in terms of space is as follows: Banking/Financial Services (116 or 4.68% of total pages); Logistics (112 or 7%), Retail (89 or 8%), Energy (89 or 6%), and IT/Telecom (54 or 4%). Comparatively, China H Retail produces the highest volume of visuals (121 or 8%), followed by Banking/Financial Services (108 or 4%), Energy (77 or 4%), IT/Telecom (67 or 4%)

and Logistics (57 or 3%). China A firms rank as follows: Banking/Financial Services (75 or 3%), Logistics (16 or 1%), Energy (16 or 1%), IT/Telecom (14 or 1%) and Retail (11 or 1%). The proportions between them are shown in Graph 22.

Graph 22: The proportions of overall visual data measured in space among the three country groups and the five industry sectors (measured in pages)



In pictures, UK Logistics produces the highest volume (88 pages of pictures or 79% of overall visual), followed by Banking/Financial Services (72.21 or 62%), Retail (70 or 79%), Energy (58 or 65%) and IT/Telecom (39 or 72%). In comparison, the graphs/charts are ranked as follows: Banking/Financial Services (44 or 38%), Energy (31 or 35%), Logistics (24 or 21%), Retail (19 or 21%) and IT/Telecom (15 or 28%).

The above rankings show that:

- 1) Picture space presentation is more dominant in UK Logistics than it is in other sectors, which totally differs from the ranking of visuals measured by occurrences; 2)

pictures have an apparent dominance in terms of visual space presentation compared to graphs/charts;

3) Retail uses less graphs/charts;

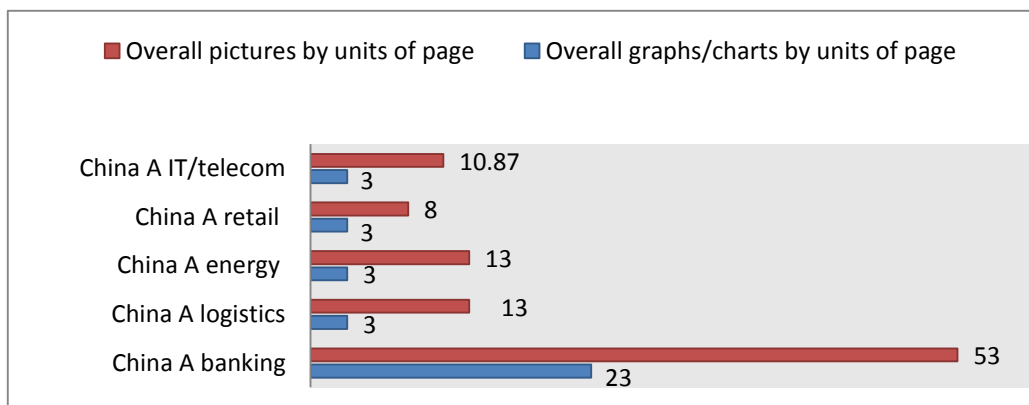
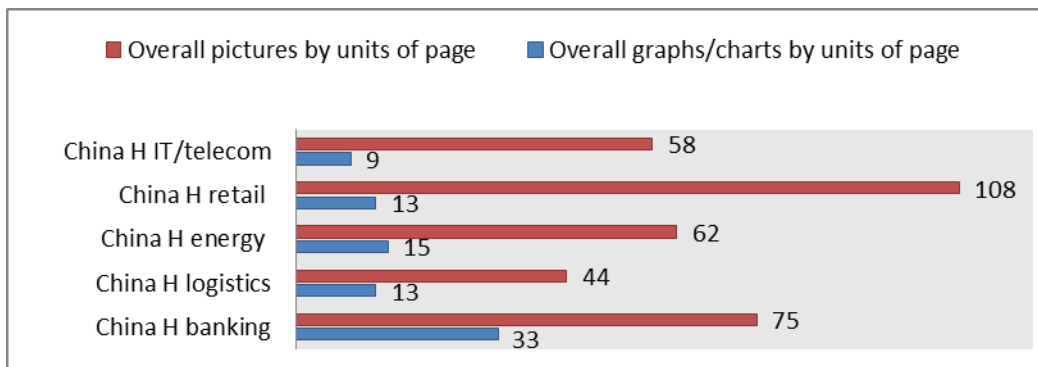
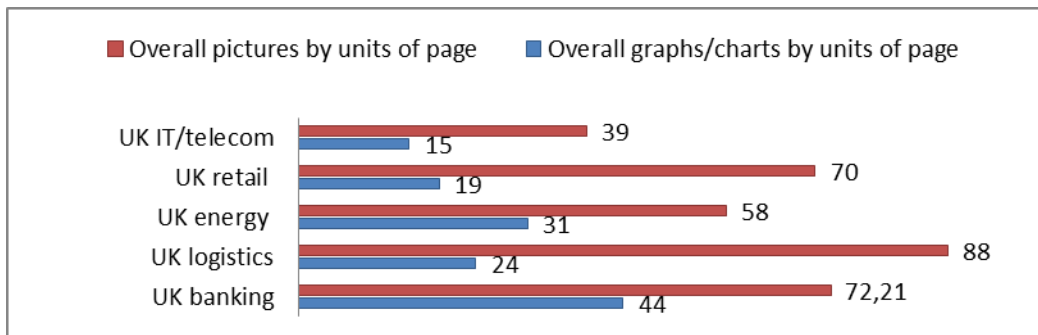
4) UK IT/Telecom is the least active in the use of visual communication skills

In contrast to the corresponding UK sector, China H Retail produces the highest volume of 108 pages of pictures or 89% of its total visual, followed by Banking/Financial Services (75 or 69%), Energy (62 or 80%), IT/Telecom (58 or 87%) and Logistics (44 or 77%). With regard to graphs/charts, China H Banking/Financial Services produces the highest volume with 33 pages or 30% of its overall visual, followed by Energy (15 or 19%), Retail (13 or 11%), Logistics (13 or 22%), and IT/Telecom (9 or 15%). Unlike the UK firms, Logistics is ranked as producing the least volume of all five sectors. Retail and Banking/Financial Services keep their dominance over the other sectors. China H Retail is much more motivated to use space rhetoric than the others, which is very different from the situation of Retail in the UK firms' annual reports.

Similarly, in terms of pictures, China A Banking/Financial Services produces, on average, the highest volume with 53 pages of pictures or 70% of the overall visual, followed by Energy (13 or 84%), Logistics (13 or 82%), IT/Telecom (10.87 or 77%) and Retail (8 or 71%). With regard to graphs/charts, Banking/Financial Services still produces the biggest quantity, with 23 pages or 30% of its total visual, followed by

Retail (3 or 27%), IT/Telecom (3 or 22%), Logistics (3 or 19%) and Energy (3 or 19%). As shown in the above rank analysis, China A firms are the least active of all three groups in the production of both pictures and graphs/charts, demonstrating the least visual awareness. The three groups' rankings above can be compared in the following Graph 23.

Graph 23: The comparison of pictures and graphs/charts between the five industry sector groups in each of the three countries measured in pages.



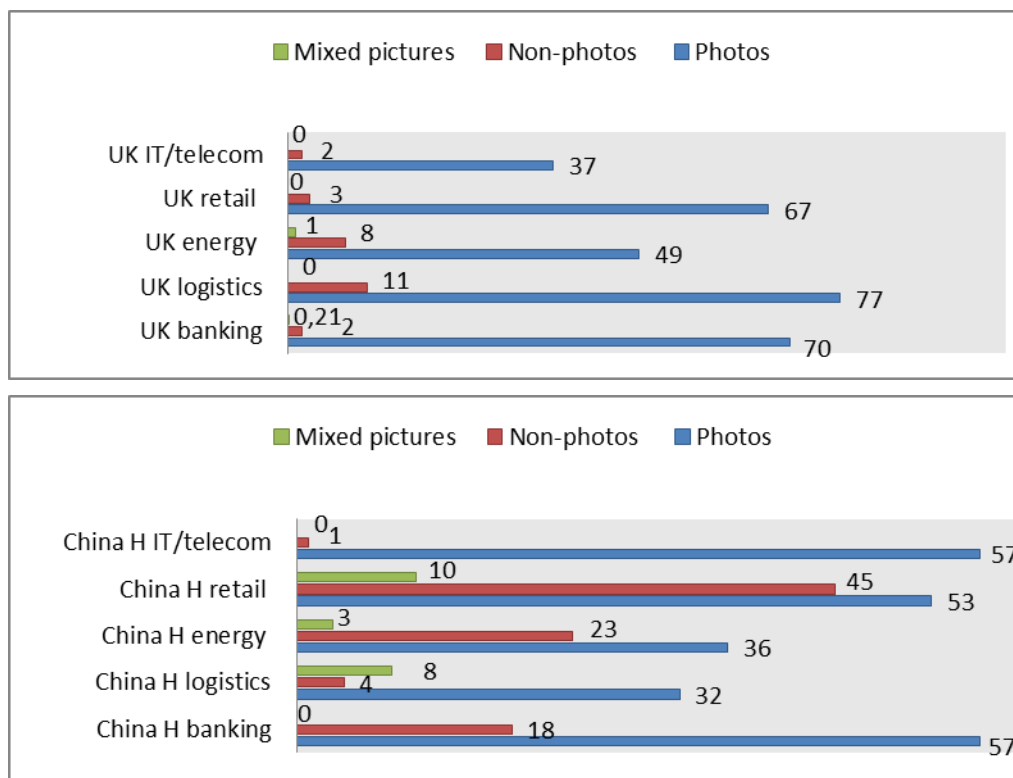
As shown in Table 2.2, photographs occupy the highest of volume of pages of all, followed by non-photographs and mixed pictures. UK Logistics produce, on average, the largest volume, with 77 pages of photographs, followed by Banking/Financial Services (70), Retail (67), Energy (49) and IT/Telecom (37). Comparatively, UK Logistics only produce an average of 11 pages of non-photographs, followed by Energy (8), Retail (3), Banking/Financial Services (2) and IT/Telecom (2). Energy produces only 1 page of mixed pictures and Banking/Financial Services 0.21, while the other sectors produce none, far less than the other picture types.

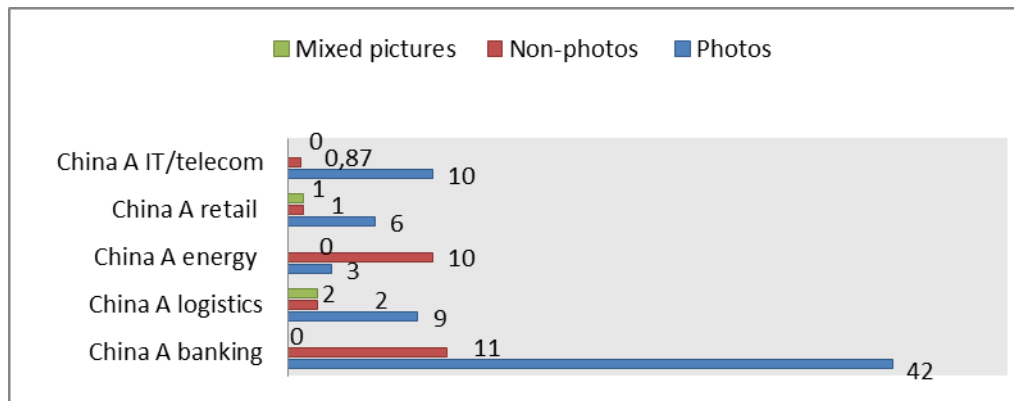
China H Banking/Financial Services and IT/Telecom produce, on average, the highest volume, with 57 pages of photographs, followed by Retail (53), Energy (36) and Logistics (32). China H Retail produces, on average, the highest volume, with 45 pages of non-photographs – much higher than UK Retail – followed by Energy (23) – much higher than UK Energy – Banking/Financial Services (18) – much higher than UK Banking/Financial Services – Logistics (4) and IT/Telecom (1). The ranking shows that the China H firms generally produce more pages of non-photographs than the UK ones. China H Retail produces, on average, the highest volume, with 10 pages of mixed pictures, followed by Logistics (8), Energy (3) IT/Telecom (0) and Banking/Financial Services (0). Mixed pictures rankings clearly show that the China H firms produce more pages of mixed pictures than the UK ones.

The whole volume of both photographs and non-photographs for the China A firms is

far lower than that of other two groups. In detail, China A Banking/Financial Services produces, on average, the biggest number of pages of photographs (42), followed by IT/Telecom (10), Logistics (9), Retail (6) and Energy (3). China A non-photographs are ranked as follows: Banking/Financial Services 11, Energy 10, Logistics 2, Retail 1, and IT/Telecom 0.87. The only sectors to produce pages of mixed pictures are Logistics (2) and Retail (1), the others produce none. The rankings for the three kinds of pictures show that China A Banking/Financial Services is the most motivated among all sectors to employ visual space rhetoric to communicate intangibles. The three kinds of pictures for the three groups of firms are shown in Graph 24:

Graph 24: The comparison of the three kinds of pictures between the five industry sectors in each of the three countries by unit of space





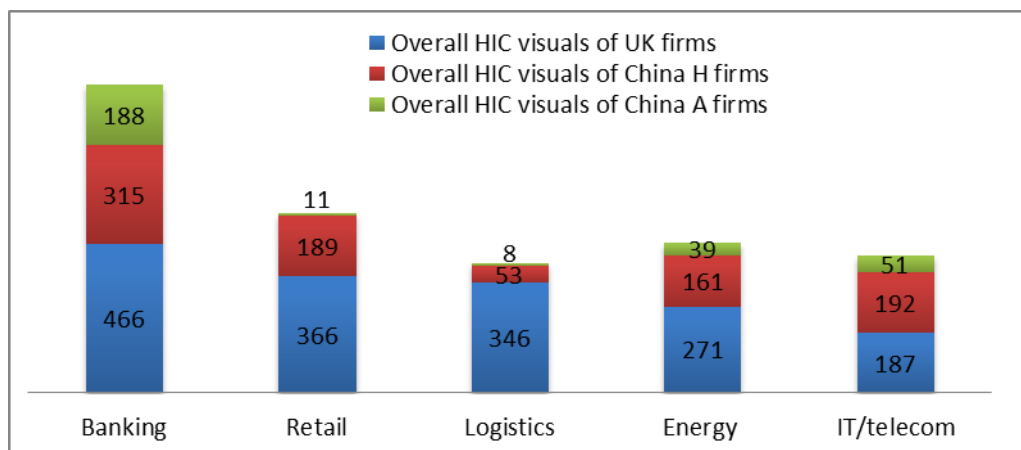
Detailed analysis of Table 2.3 – Human intellectual capital visual data summary by country and industry sector by occurrences

From Table 2.3, it is clear that the UK Banking/Financial Services firms dominate the other sectors in the production of HIC visuals, with an absolute number of 466 occurrences, followed by Retail (366), Logistics (346), Energy (271) and IT/Telecom (187). This means that visual communication is most widely applied in Banking/Financial Services for the disclosure of HIC than it is in the other sectors. This is shown in Graph 21. However, if we take the total pages volume factor into consideration, measured by average units of HIC per page, Retail has the highest proportion – with an average of 0.34 occurrences per page – followed by Logistics (0.22), Banking/Financial Services (0.19), Energy (0.19) and IT/Telecom (0.13). The ranking changes are due to the dilution of page volume.

The China H firms have a clear lower volume of HIC visuals compared to the UK firms, but a definite higher one than the China A firms. Its Banking/Financial Services produces the highest volume of occurrences of human visuals (315) or 0.12 average

occurrences of human visuals per page, followed by IT/Telecom (192 or 0.12), Retail (189 or 0.13), Energy (161 or 0.08) and Logistics (53 or 0.03). Comparatively, the China A firms' sector rankings are as follows: Banking/Financial Services (188 or 0.06), IT/Telecom (51 or 0.03), Energy (39 or 0.01), Retail 11 or 0.01) and Logistics (8 or average 0.01). Both rankings show that Banking/Financial Services and IT/Telecom are the keenest to use human related visuals to promote intangibles, and that Logistics is the least keen to do so. In addition, HIC visuals are greatly emphasized in the UK Retail sector versus the corresponding sectors of both Chinese groups of firms, in which it is greatly overlooked. The differences between the three groups are shown in Graph 25.

Graph 25: Differences in overall HIC visuals among the three country groups in units of occurrence



In more detail, Banking/Financial Services has the highest volume, with 372 human capital pictures or 79.82% of the HIC related total visuals, followed by Retail (351 or 95.90%), Logistics (311 or 89.88%), Energy (238 or 87.82%) and IT /Telecom (166 or

88.77%). Also, Banking/Financial Services has the highest volume of graphs/charts (94 or 20.17%), followed by Logistics (35 or 10.12%), Energy (33 or 12.18%), IT/Telecom (21 or 11.23%) and, lastly, Retail (15 or 4.10%).

Comparatively, the ranking of human pictures of the China H firms is: Banking/Financial Services (274 or 86.98% of total HIC visuals, IT (191 or 99.47%), Retail (182 or 96.29%), Energy (154 or 95.65%) and, lastly, Logistics (46 or 86.79%).

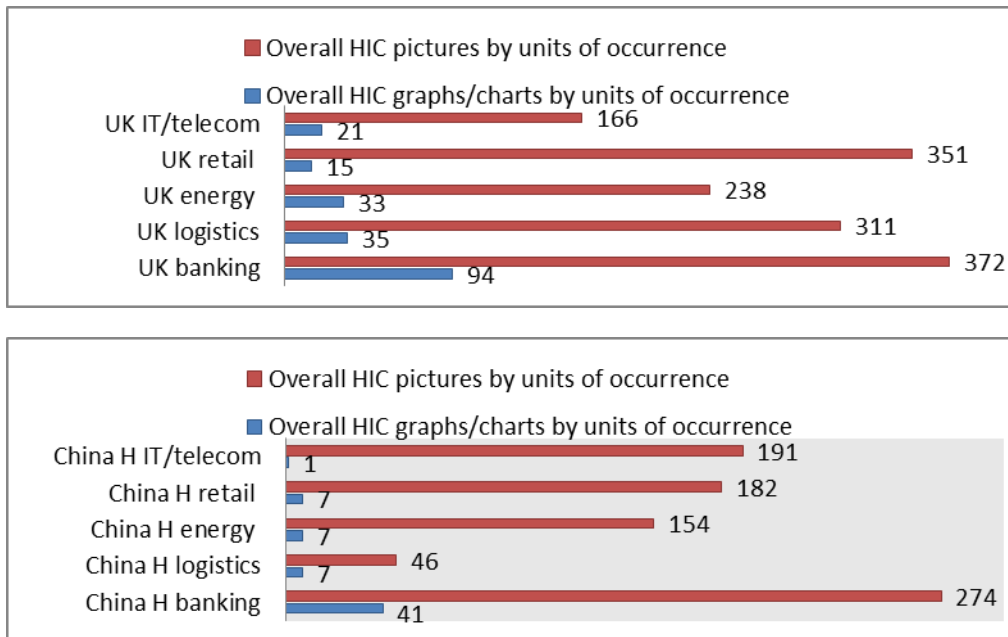
The rankings in human pictures of the China A firms are: Banking/Financial Services (169 or 89.89%), IT/Telecom (49 or 96.08%), Energy (39 or 100%), Retail (10 or 90.91%), and Logistics (4 or 100%).

For the China H firms, the biggest volume of graphs/charts is produced by Banking/Financial Services, with 41, followed by three equally ranked sectors, namely Logistics (7 or 13.21%), Energy (7 or 4.35%) and Retail (7 or 3.70%), and by IT/Telecom (1 or 0.52%). The China A Banking/Financial Services produces 19 occurrences of graphs/charts or 10.11% of its total human pictures, the biggest number of all, followed by Logistics (4 or 50%), IT/Telecom (2 or 3.92%), Retail (1 or 9.09%), and Energy (0 or 0%). Apparently, China H firms produce a higher volume than China A ones, indicating that it pays more attention to impression management.

The above data compellingly indicate that pictures reflecting HIC clearly occupy more volume than graphs/charts for all three groups. Banking/Financial Services is

the sector most motivated to use visual communication (by means of both pictures and graphs/charts) to promote HIC as the core of value creation and brand sustainability. The UK firms produce a much greater volume of both pictures and graphs/charts than do those of both Chinese groups. For both Chinese firm groups, the Banking/Financial Services and IT/Telecom sectors are dominant in in terms of the absolute number of occurrences, whereas. Logistics produce the least volume of them. The differences between the three groups with regard to HIC pictures and graphs/charts related to human capital are illustrated in the following Graph 26.

Graph 26: The comparison between HIC pictures and graphs/charts between the five industry sectors by country in units of occurrence



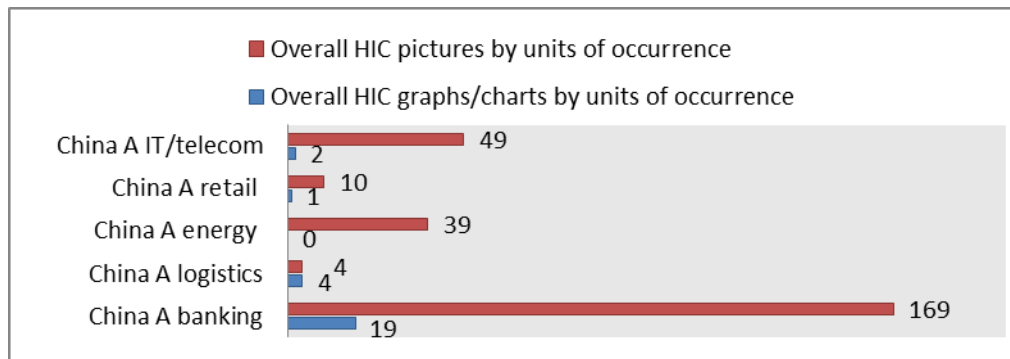


Table 2.3 also reveals that UK Banking/Financial Services produces 369 occurrences of photographs related to human capital or 99.19% of overall HIC pictures, taking the dominant position in the ranking, followed by Retail (350 or 99.71%), Logistics (291 or 93.57%), Energy (233 or 97.89%) and IT/Telecom (166 or 100%).

Compared to photographs, non-photographs and mixed pictures related to human capital are much less prevalent, only Logistics, Energy and Retail producing occurrences of non-photographs: 20, 5 and 1 respectively. In terms of mixed pictures, only Banking/Financial Services produces 3 occurrences.

Among pictures, China H Banking/Financial Services produces 274 occurrences of photographs, the highest number of all, followed by IT/Telecom (190), Retail (162), Energy (147) and Logistics (41). In comparison, the China A firms' photographs ranking is: Banking/Financial Services (169), IT/Telecom (49), Energy (39), Retail (10), and Logistics (4). The above data ranking shows that photographs are far more widely produced by Banking/Financial Services and IT/Telecom than by the other sectors, Logistics in both of Chinese firm groups producing the least amount. Retail is

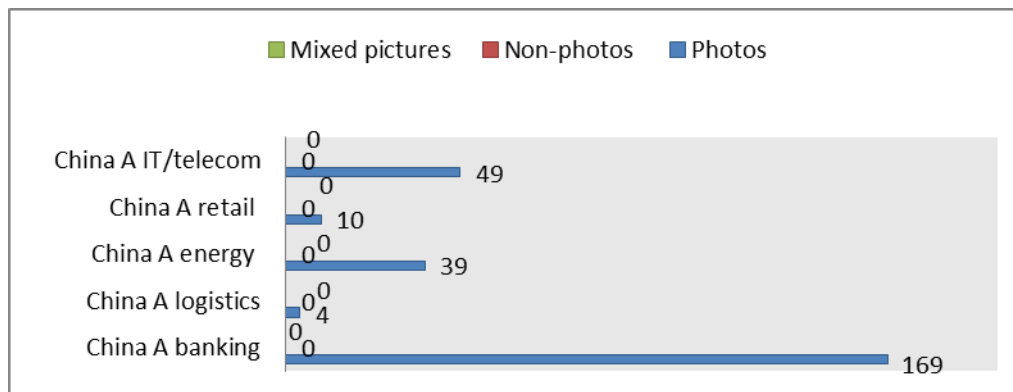
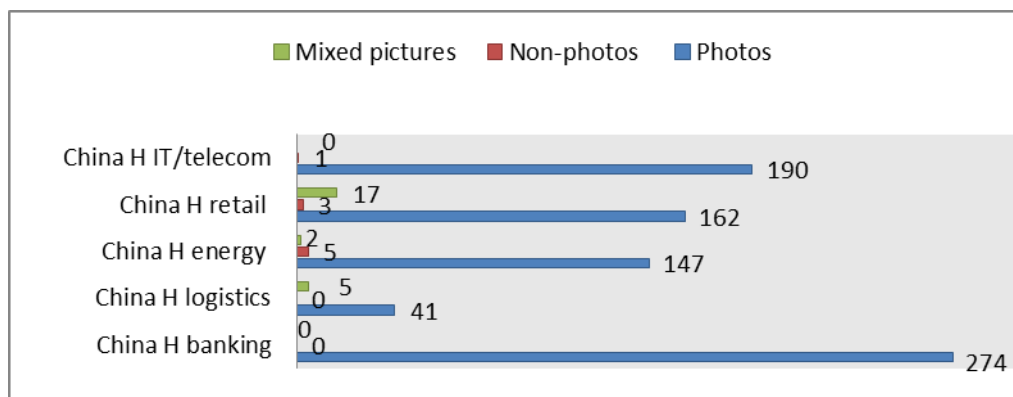
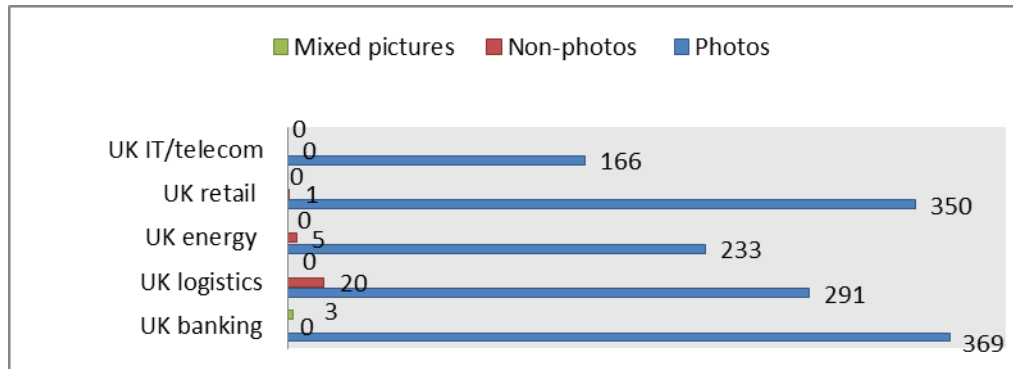
far more active in the China H firm group than it is in the China A one. The UK firms produce the highest volume of human photographs of all by far.

The Chinese firms produce smaller volumes of non-photographs. The China H firms produce 5 occurrences of non-photographs in Energy, 3 in Retail and 1 in IT/Telecom.

The China A firms do not produce any non-photographs. Correspondingly, the China H firms produce 17 occurrences of mixed pictures in Retail, 5 in Logistics and 2 in Energy, whereas the China A firms produce none at all, as shown in Table 3.2

The above findings disclose that: 1) undoubtedly, the UK firms produce a higher volume of both photographs and non-photographs than both China H firms and China A firms; 2) photographs are far much widely employed for HIC disclosure than the other types of pictures, which agrees with the theoretical framework; i.e. to photograph is to convey relevance; 3) furthermore, human related photographs are most used in Banking/Financial Services and Retail compared to other sectors in the UK firms' annual reports; 4) however, HIC photographs are the most used in Banking/Financial Services and IT/Telecom than in the other sectors of both Chinese firm groups; 5) in all the three groups, Banking/Financial Services is the most motivated in the use of HIC photographs to pursue the purposeful communication of accounting information. This comparison is also shown in the following Graph 27.

Graph 27: The comparison of the three kinds pictures related to HIC among the five sector groups in each of the three countries by units of occurrence



Detailed analysis of Table 2.4 – HIC visual data summary by country and industry sector in terms of space

Table 2.4 shows the trends of visual communication related to HIC. It reveals that, generally, the Banking/Financial Services and Retail firms in all groups use a higher volume of space than those in other sectors, measured in pages, to communicate

overall HIC visuals. Differentially, the UK Logistics firms show great visual space awareness and use a large volume of space to communicate visual related HIC; comparatively, the IT/Telecom sector is the main player in both Chinese groups with its use of a large volume of page space to communicate HIC visuals.

Also, all the groups allocate far more space to pictures than to graphs/charts, which points at the significance of pictures in the human capital aspect of visual communication, which is also in line with the previous research work done by Davison and Skerratt (2007). Furthermore, due to their visual reliability and effectiveness, photographs – rather than non-photographs and mixed pictures – are far more widely employed by all groups in the space approach to communicate visuals related to HIC; this is underpinned by the theoretical framework and, in turn, supports the framework itself.

In detail, to compare the space amount of overall visuals related to HIC by industry, as shown in the following Graph 28, among UK sectors, Banking/Financial Services produces the highest volume of all, with 76 pages of HIC visuals, followed by Logistics (56), Retail (51), Energy (42) and IT/Telecom (28). Also among China H sectors, Banking/Financial Services produces the highest volume, with 49 pages of human visual, followed by Retail (46), IT/Telecom (33), Energy (21) and Logistics (13). The China A ranking is as follows: Banking/Financial Services (38), IT/Telecom (8), Retail (6), Energy (3) and Logistics (1). The overall ranking of the three groups

shows the distinct differences among them. Logistics is significant among the UK sectors, whereas IT/Telecom is in both Chinese groups. This may imply that, apart from Banking/Financial Services and Retail, service-oriented industries are more active in terms of visual rhetoric among the UK sectors; conversely, technology-oriented industries tend to show this feature among Chinese sectors.

Graph 28: The proportions of overall visuals relating to HIC between the five industry sectors and the three country groups by units of space

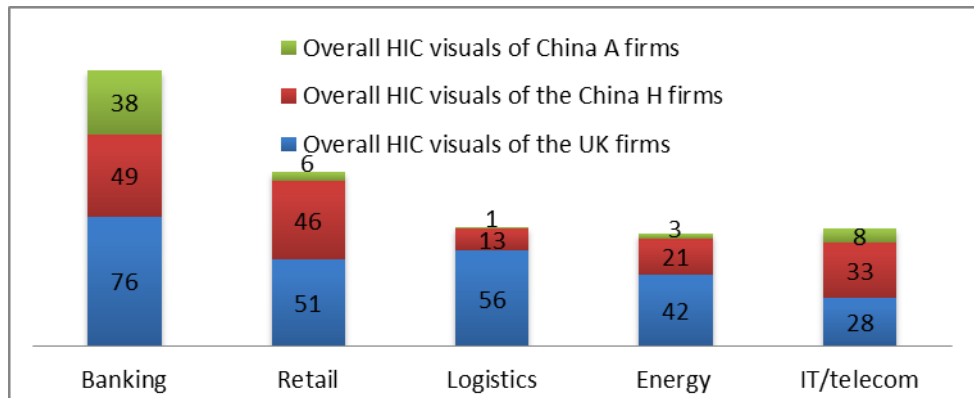


Table 2.4 also reveals the distinct gap between pictures and graphs/charts related to HIC in all groups. In detail, by industry sector, the UK Banking/Financial Services sample firms produce the highest volume of pages (66 or 87%) of total human capital visuals, followed by Logistics (53 or 95%), Retail (49 or 96%), Energy (37 or 88%), and IT/Telecom (26 or 92%). In comparison, the UK Banking/Financial Services still produces, on average, the highest volume of pages (10 or 23%) of total human related graphs/charts, followed by Energy (5 or 12%), Logistics (3 or 5%), IT/Telecom (2 or 8%) and Retail (2 or 4%). Compared to the other groups/sectors, the UK

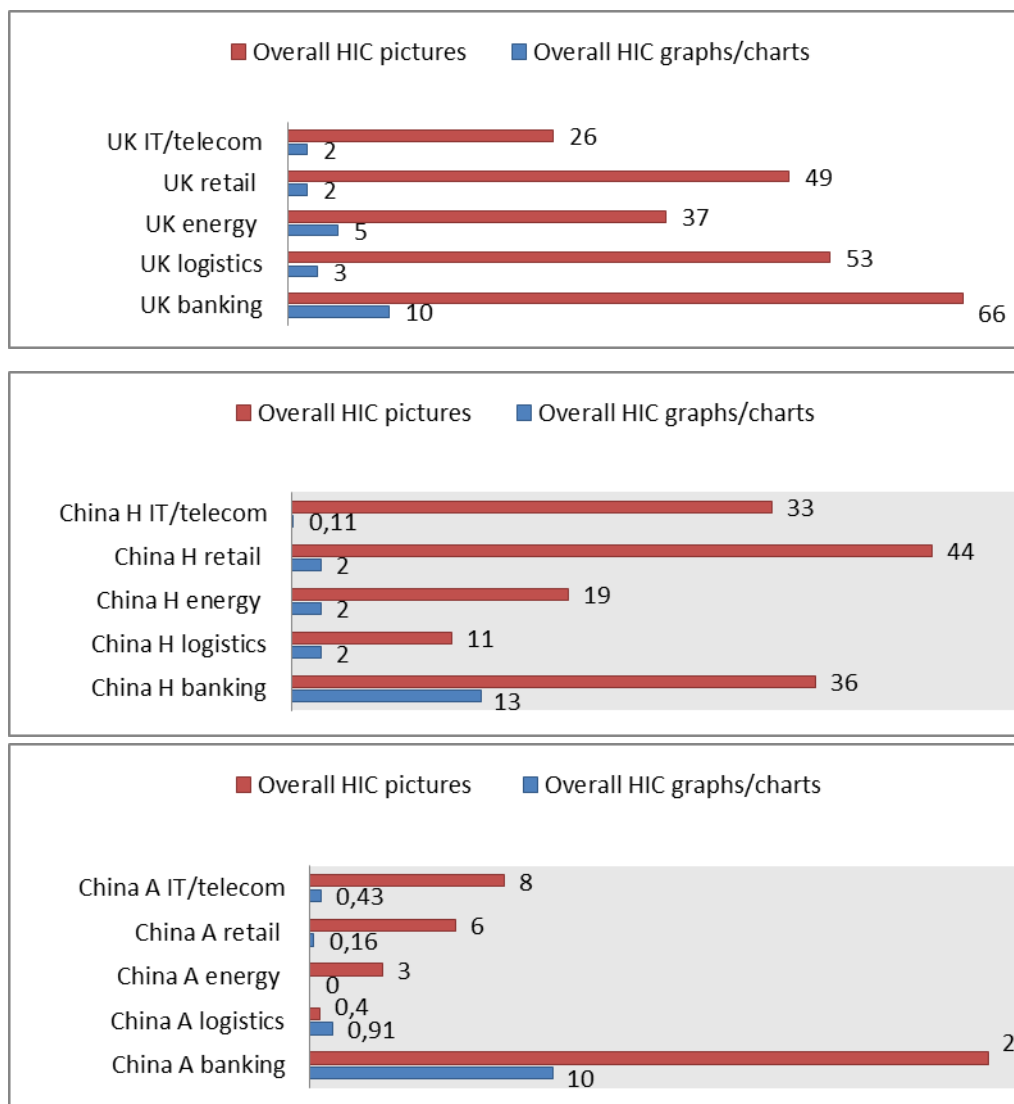
Banking/Financial Services sector sample firms most widely use both pictures and graphs to communicate accounting intangibles, whereas UK Retail shows a preference for pictures, with a small proportion of graphs/charts used.

For the China H firms, pictures are ranked from Retail (44 or 96%) down to Banking/Financial Services (36 or 73%), IT/Telecom (33 or 99%), Energy (19 or 90%) and Logistics (11 or 85%). Comparatively, their graphs/charts ranking is: Banking/Financial Services (13 or 27%), Retail (2 or 4%), Logistics (2 or 15%), Energy (2 or 10%) and IT/Telecom (0.11 or 0.33%). The above ranks show the preponderance of pictures over graphs/charts in space presentation. They also clearly reveal that Retail has higher volume of pictures space than Banking/Financial Services, which is different from the overall human intellectual capital visual, further indicating the predilection of China H Retail to pictures through space rhetoric..

Likewise, China A firms produce the lowest volumes of both pictures and graphs/charts of all groups. In terms of sectors, pictures are ranked from the top Banking/Financial Services 28 or 74%, down to IT/Telecom 8 or 95%, Retail 6 or 97%, Energy 3 or 100%, and Logistics 0.4 or 30.53%. Comparatively, China A graphs/charts are ranked from top Banking/Financial Services 10 or 26%, down to Logistics 0.91 or 69%, IT/Telecom 0.43 or 5%, Retail 0.16 or 3%, and Energy 0 or 0%. As show in the ranks, pictures dominate in space apart from only Logistics which pictures has obvious smaller space than graphs/charts; Banking/Financial Services is

always ranked on the top in both sides. The above three groups' industry sectors' comparative results are shown in Graph 29.

Graph 29: The comparison between over human intellectual capital pictures and graphs/charts between five industry sectors and three country groups in units of space



The data collected in Table 2.4 show the differences between the three types of pictures. Unexpectedly, the UK Banking/Financial Services firms produce the biggest

area of photographs related to HIC (66 pages), followed by Logistics (51), Retail (49), Energy (37) and IT/Telecom (26). The China H Banking/Financial Services sector firms also produce the biggest area of HIC photographs (36 pages), followed by Retail (36), IT/Telecom (33), Energy (17) and Logistics (9). Correspondingly, the China A Banking/Financial Services sample also produces the biggest area of human photographs (28 pages), followed by IT/Telecom (8), Retail (6), Energy (3) and Logistics (0.4). The gap between the different China A sectors is apparent.

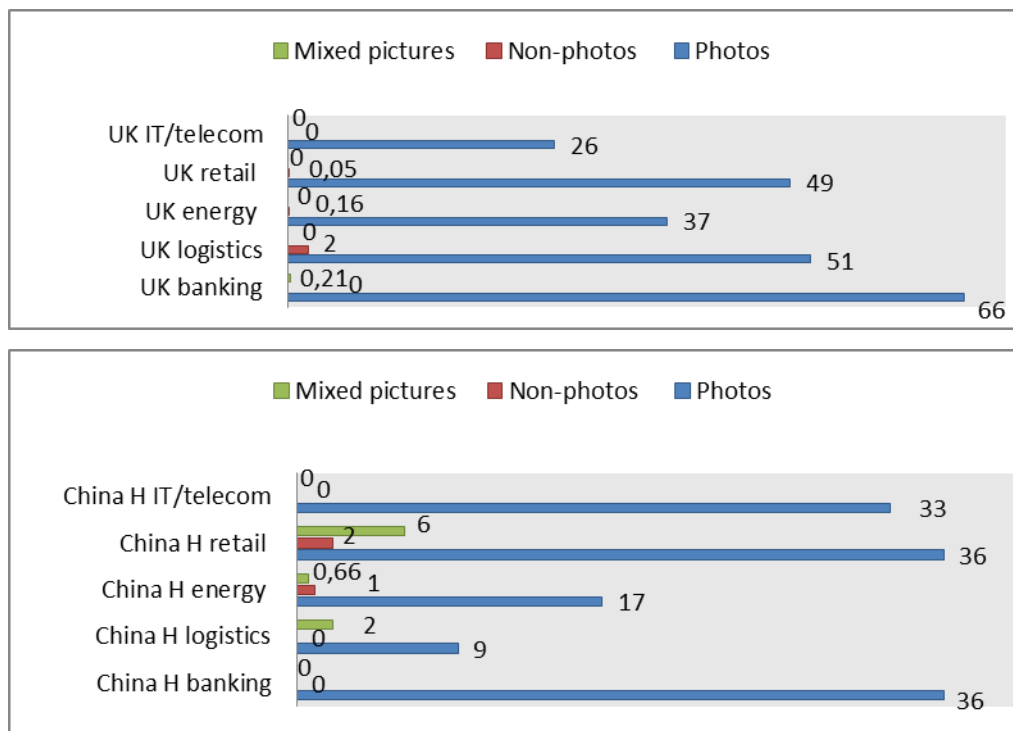
In contrast, the UK Logistics produce the biggest area of HIC related non-photographs among the UK sample sectors (2 pages), followed by Energy (0.16), Retail (0.05), Banking/Financial Services and IT/Telecom (both 0). Only two China H sectors produce non-photographs, namely: Retail (2) and Energy (1); the others produce none. The China A firms do not produce any non-photographs.

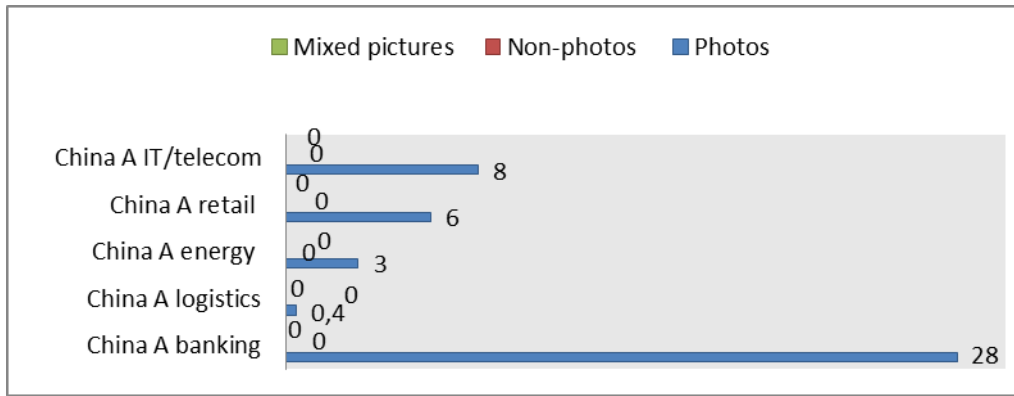
In HIC mixed pictures, starting with the UK firms, only Banking/Financial Services produces 0.21 pages of them. China H firms produce the highest volume of human related mixed pictures of all groups, with Retail topping the list with 6, down to Logistics (2), Energy (0.66), Banking/Financial Services and IT/Telecom (both 0). None of the China A firms produce any.

The distinct differences between the three groups in terms of the distribution level of the three types of pictures can be summarized as follows. Photographs are commonly

used in all groups; China H firms show a higher non-photo usage than those of the other groups. The picture volume of the UK Logistics sector sample is dramatically higher than the corresponding sector in both of Chinese groups. In contrast, IT/Telecom shows a more widespread usage of the space rhetoric of all three types of pictures in the annual reports of both Chinese groups compared to the UK sample. The detailed differences among and trends of the different industry sectors are visually illustrated in Graph 30.

Graph 30: The comparison of the three kinds of HIC capital pictures among the five industry sectors and the three country groups by unit of space





4.4 Visual material by industry sector

4.4.1 Overall visual data findings [Tables 3.1 & 3.2]

	Pictures			Total pictures	Graphs/ charts	Total	Total pages	Average unit per page
	Photos	Non-photos	Mixed pictures					
Banking/ Financial Services	970	65	3	1038	658	1696	7924	0.21
Logistics	543	67	14	624	296	920	5218	0.17
Energy	546	147	5	698	289	987	5312	0.19
IT/ Telecom	558	102	0	671	157	828	4626	0.18
Retail	836	178	22	1036	230	1266	4024	0.31

	Pictures			Total pictures	Graphs/ charts	Total	Total pages	Average unit per page
	Photos	Non-photos	Mixed pictures					
Banking/ Financial Services	169	32	0.21	201	100	301	7924	0.04
Logistics	118	17	10	145	39	184	5218	0.04
Energy	89	41	4	134	48	182	5312	0.03
IT/ Telecom	105	4	0	109	27	136	4626	0.03
Retail	127	49	11	187	36	223	4024	0.06

These tables rank the results only by industry sector, regardless of country. Tables 3.1

and 3.2 both show that Banking/Financial Services and Retail use considerably more visual materials than the other sectors, both in terms of absolute quantities and of averages per report page, either measured in units of occurrence or in units of space. For example, in absolute terms, Banking/Financial Services tops the list with 1696 units, followed by Retail (1266), followed by Energy (987), Logistics (920) and lastly IT/Telecom (828) (Table 3.1). In average terms, Retail produces 0.31 units per page, compared to Logistics, which produces only 0.17. The same trend is shown in Table 3.2, by units of space; for instance, Banking/Financial Services on average produces the highest volume of visual information (301 pages) in relation to this investigation's subject, the second largest volume being produced by Retail (223), followed by Logistics (184), Energy (182) and lastly IT/Telecom (136). In average terms, Retail produces 0.06 pages of relevant visual information per report page, followed by Banking/Financial Services and Logistics (both 0.04), Energy (0.03) and IT/Telecom (0.03).

4.4.2 Human intellectual capital visual data findings [Tables 3.3 & 3.4]

Table 3.3 – Overall HIC visual data summary by sector measured by units of occurrence								
	Pictures			Total pictures	Graphs/ charts	Total	Total pages	Average unit per page
	Photos	Non-photos	Mixed pictures					
Banking/ Financial Services	812	0	3	815	154	969	7924	0.12
Logistics	336	20	5	361	46	407	5218	0.08
Energy	419	10	2	431	40	471	5312	0.09
IT/ Telecom	405	1	0	406	24	430	4626	0.09
Retail	522	4	17	543	23	566	4024	0.14

Table 3.4 – Overall HIC visual data summary by sector measured by units of space								
	Pictures			Total pictures	Graphs/ charts	Total	Total pages	Average unit per page
	Photos	Non-photos	Mixed pictures					
Banking/ Financial Services	129	0	0.21	129	33	162	7924	0.02
Logistics	61	2	2	65	6	71	5218	0.01
Energy	56	1	0.66	58	7	65	5312	0.01
IT/ Telecom	68	0	0	68	3	71	4626	0.02
Retail	91	2	6	99	4	103	4024	0.03

Tables 3.3 and 3.4 show the subset of HIC visual data measured in units of occurrence and of space. Again, Banking/Financial Services and Retail make a more widespread

use of visual materials, both in relative and absolute terms. Tables 3.3 and 3.4 show that Banking/Financial Services occupies the dominant position (969 units and 162 pages) in the absolute volume of HIC related visual presentation, followed by Retail (566 units and 103 pages), Energy (471 units and 65 pages), IT/Telecom (430 units and 71 pages) and Logistics (407 units and 71 pages). The sector ranking above indicates that visual communication – and, in particular, HIC related visual communication – is more widely used in Banking/Financial Services and Retail than in other sectors. This may be due to the relatively closer face-to-face service they provide and to their more widely multinational customer base.

The findings above show that: 1) photographs are far more widely employed in respect of HIC disclosure than the other types of pictures, i.e. non-photographs (cartoons, paintings, drawings, sketches, sculptures, etc.) and mixed pictures. This is consistent with the theoretical framework relating to photographs: to photograph is to convey relevance; 2) Furthermore, Banking/Financial Services and Retail are the sectors most motivated to use HIC photographs for the purpose of communicating accounting information issues such as the promotion of intangibles.

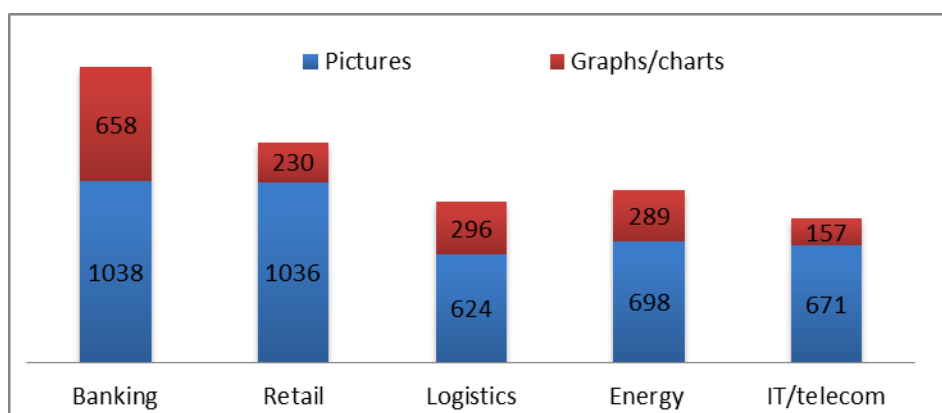
4.4.3 Detailed analysis of tables [Tables 3.1 to 3.4]

Detailed analysis of Table 3.1 – Overall visual data summary by industry sector by occurrences

Pictures are widely used by all industry sectors. Banking/Financial Services, on

average, produces 1038 overall, followed by Retail (1036), Energy (698), IT/Telecom (671) and Logistics (624). Comparatively, graphs/charts are much less employed; Banking/Financial Services still produces the highest volume of them with 658 units, followed by Logistics (296), Energy (289), Retail (230) and, lastly, IT/Telecom (157). Clearly, graphs/charts are very little used in Retail annual reports, in which pictures are greatly emphasized with a number that is more than four times that of graphs/charts. This could be attributed to Retail's specificity, in that it focuses on trading and selling, which may require it to follow a more picture-driven approach. The trends can be seen in Graph 31.

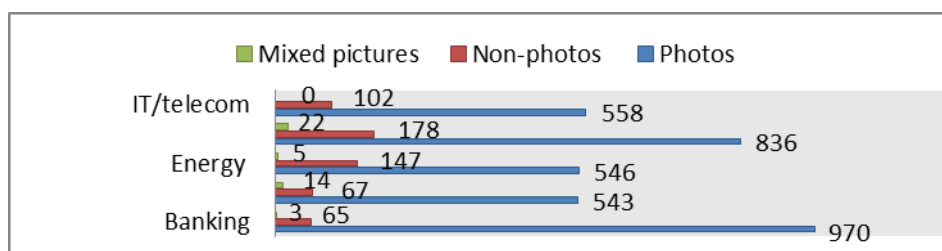
Graph 31: The comparison between pictures and graphs/charts by units of occurrence



Within pictures and among the three groups, the Banking/Financial Services sector produces the biggest number of photographs (970 units), followed by Retail (836), IT/Telecom (558), Energy (546) and Logistics (543). With regard to non-photographs among the three groups, the Retail sector is the keenest, producing 178 units, followed by Energy (147), IT/Telecom (102), Logistics (67) and, lastly, Banking/Financial

Services (65). In terms of the occurrence of mixed pictures, Retail reports the highest number with 22 units, followed by Logistics (14), Energy (5), Banking/Financial Services (3), and IT/Telecom (0). The above analysis indicates 1) a conspicuous tendency of all five surveyed industry sectors to employ photographs; 2) that photographs are prevailing, followed, in order of number of occurrences, by non-photographs and mixed pictures. The proportions are illustrated in Graph 32.

Graph 32: The proportions of the three types of pictures in the visual communication of the five sectors surveyed.

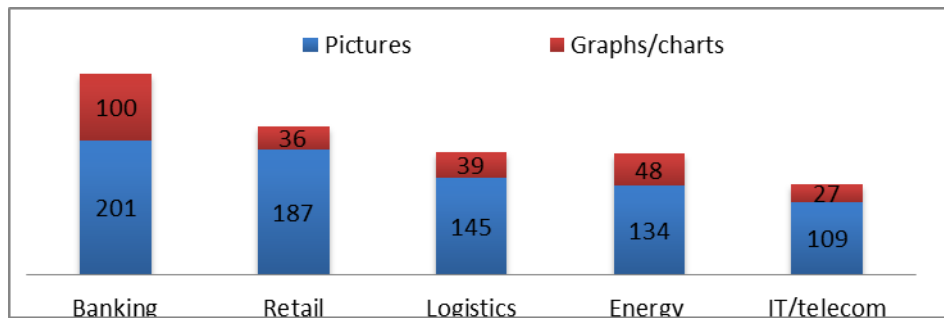


Detailed analysis of Table 3.2 – Overall visual data summary by industry sector in terms of space

Similarly, in terms of total picture space, Banking/Financial Services, on average, produces the biggest area, with 201 pages, followed by Retail (187), Logistics (145), Energy (134) and IT/Telecom (109). In respect of graphs/charts, Banking/Financial Services occupies the first place again with an average of 100 pages, followed by Energy (48), Logistics (39), Retail (36) and IT/Telecom (27). The above ranking clearly shows that: 1) all five sectors occupy much more space with pictures than with graphs/charts; 2) Banking/Financial Services has the absolute space predominance

both in terms of pictures and graphs/charts; 3) Retail is also outstanding in picture space presentation. The distribution and proportions between pictures and graphs/charts within the five surveyed sectors are visually shown in Graph 33.

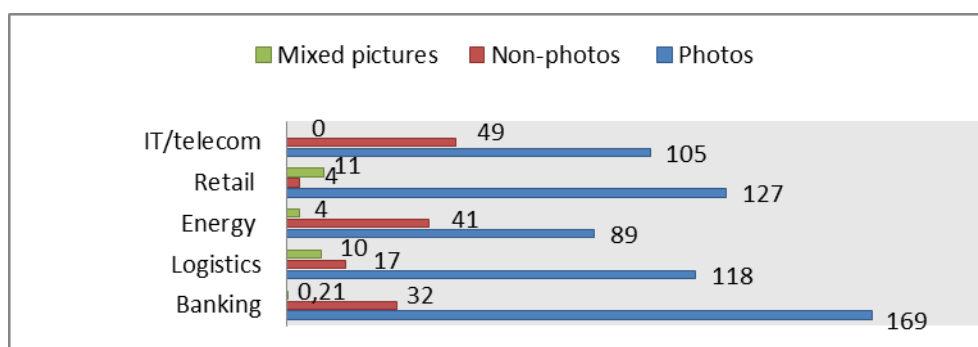
Graph 33: Proportions between pictures and graphs/charts within the five surveyed sectors by units of space



As the data collected in Table 3.2 shows, Banking/Financial Services produces the highest volume of photographs of all, with 169 pages, the second largest one is produced by Retail, with 127 pages, followed by Logistics (118), IT/Telecom (105) and Energy (89). Retail occupies the dominant position in the production of non-photographs with a volume of 49 pages, followed by Energy (41), Banking/Financial Services (32), Logistics (17) and IT/Telecom (4). Retail produces the most space of mixed pictures, with 11 pages, followed by Logistics (10), Energy (4), Banking/Financial Services (0.21) and IT/Telecom (0). The above ranking shows that 1) photographs dominate overall pictures, followed by non-photographs and, lastly, mixed pictures, which fits all five investigated industry sectors; 2) Banking/Financial Services and Retail are preponderant in their space allocation of

photographs; 3) Retail holds the dominant position of all sectors in the space allocation of non-photographs and mixed pictures, which could be due to a proactive effort to append additional rhetoric for selling effect. The proportions of pictures among the five sectors are shown in Graph 34.

Graph 34: Proportions of pictures in the five sectors by units of space

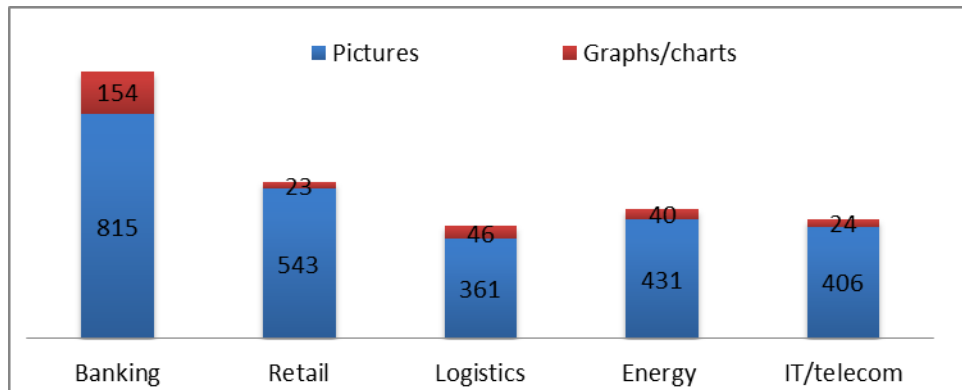


Detailed analysis of Table 3.3 – Overall HIC visual data summary by industry sector measured by occurrences

Table 3.3 illustrates the use of HIC related visual communication by units of occurrence by industry sector only. Banking/Financial Services produces the highest number of pictures with 815 units in total, followed by Retail with 543, Energy (431), IT/Telecom (406) and Logistics (361). Banking/Financial Services also produces the highest number of occurrences of graphs/charts (154 units), followed by Logistics (46), Energy (40), IT/Telecom (24) and, lastly, Retail (23). The above ranking shows that 1) human capital related pictures are much more numerous than human capital related graphs/charts, 2) the gap between HIC related pictures and graphs/charts appears to be wider than the gap between the corresponding general types of visuals,

which clearly indicates a preference by all sectors towards HIC related pictures; 3) Banking/Financial Services and Retail are most active among all the five sectors in producing human capital related visual information. The proportions between HIC pictures and graphs/charts by industry sector are shown in Graph 35

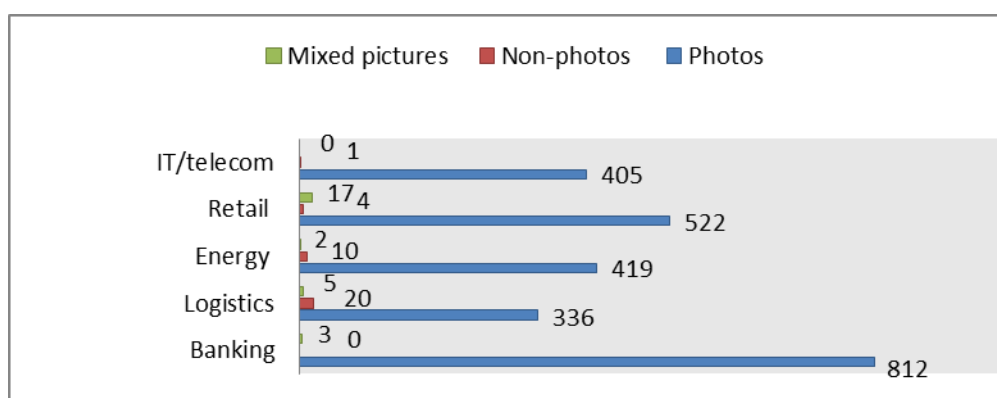
Graph 35: The proportions between HIC pictures and graphs/charts by industry sector by units of occurrence



Within HIC related pictures, Banking/Financial Services produces the highest volume of photographs, with 812 units, followed by Retail (522), Energy (419), IT/Telecom (405) and Logistics (336). Logistics rank first for the largest number of non-photographic pictures with 20 units – which differs from the trend in general non-photographic pictures, which is dominated by Retail – followed by Energy (10), Retail (4), IT/Telecom (1) and Banking/Financial Services (0). In terms of mixed pictures, Retail produces the largest number (17 units), followed by Logistics (5), Banking/Financial Services (3), Energy (2) and IT/Telecom (0). The above ranking clearly indicates that, 1) HIC related photographs are absolutely dominant over the

other types of pictures in the sector analysis; 2) the gap between human capital related photographs and the other types of picture is obviously bigger than it is between the corresponding types of pictures related to general visual data, which is an indication of the importance and preponderance of HIC related photographs for visual communication purposes in all industry sectors. The proportions within human capital related pictures are shown in Graph 36.

Graph 36: The proportions among HIC related pictures between the five sectors in units of occurrence

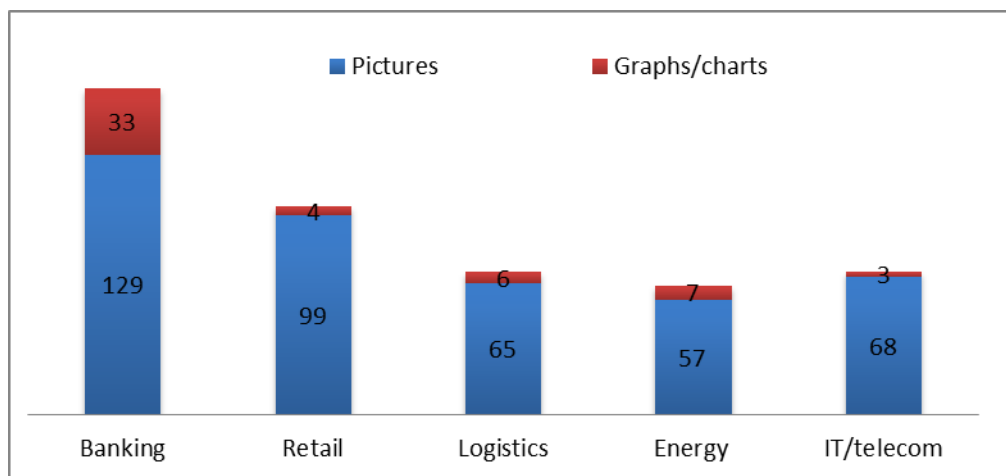


Detailed analysis of Table 3.4 – Overall HIC visual data summary by industry sector in terms of space

In terms of space presentation, Banking/Financial Services allocates the largest space to HIC related pictures of all sectors, with 129 pages, followed by Retail (99), IT/Telecom (68), Logistics (65) and Energy (58). Comparatively, Banking/Financial Services produces, on average, 33 pages of HIC related graphs/charts, followed by Energy (7), Logistics (6), Retail (4) and IT/Telecom (3). It is evident that human

capital associated pictures are allocated more space than graphs/charts. Additionally, Banking/Financial Services holds the dominant position for both types over all the industry sectors, as can be seen from Graph 37.

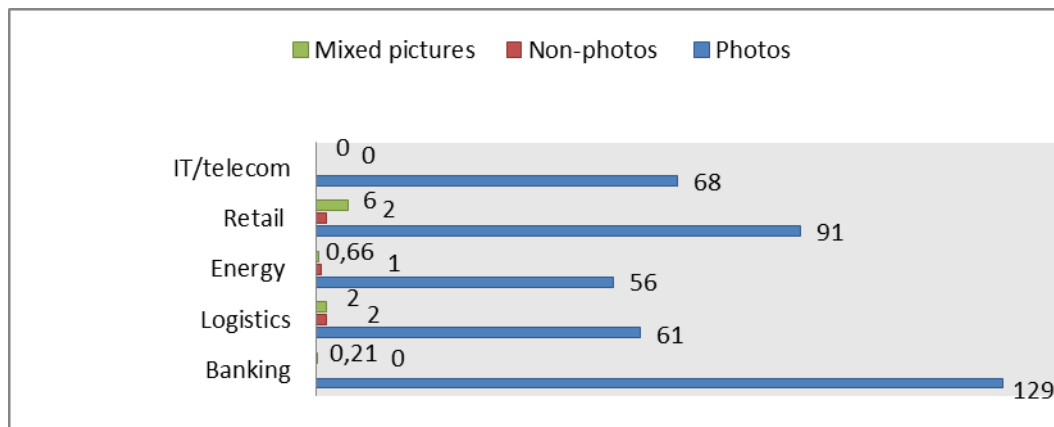
Graph 37: The proportions between HIC pictures and graphs/charts by industry sector by units of space



Within HIC related pictures, Banking/Financial Services produces the highest volume of photographs (129 pages), followed by (91), IT/Telecom (68), Logistics (61) and Energy (56). On the other hand, Retail produces the highest numbers of both non-photographic and mixed pictures (2 and 6 pages respectively) of all the industry sectors, followed by Logistics (2 and 2), Energy (1 and 0.66), Banking/Financial Services (0 and 0.21) and, lastly, IT/Telecom (0 and 0). The above ranking clearly shows that, 1) HIC related photographs are the most prevalent of all HIC picture types; 2) Banking/Financial Services is the most active sector in the production of human capital related photographs, whereas; 3) Retail is the most keen of all to exploit the

influence of non-photographic and mixed pictures in space presentation due to its specific traits. The proportions between them are illustrated in Graph 38.

Graph 38: The proportions among HIC related pictures between the five sectors by units of space



4.5 Conclusions and key findings

Briefly and in terms of the country related aspects of visual communication, large proportions of all types of visual material – including pictures, graphs and charts – are being used to communicate HIC across all country groups. This fits in with the existing literature highlighting the inadequacy of the traditional accounting framework to communicate intangibles (Lev, 2001; Hand and Lev, 2003; Zambon 2003). It reinforces the findings of Davison and Skerratt (2007, 2009); Campbell, McPhail and Slack (2009) and Bernardi, Bean and Weippert (2005). Predictably, the UK firms produce a larger volume of visuals, both in terms of units and allocated space, than the Hong Kong ones (which hold a middling position) and the Mainland China ones (which produce the least visuals); this applies to both general and HIC visuals.

All industry sector groups use more pictures than graphs and charts. This is in addition to country groups and further reinforces the findings of Davison and Skerratt (2007). The research also reveals an obvious gap between the five selected industry sectors in the application of visual communication. Banking/Financial Services and Retail firms use more overall visual communication than Energy, Logistics and IT/Telecom. This also applies to HIC related visual material. Furthermore, Banking/Financial Services is more balanced in the application of both pictures and graphs than the other sectors, Retail has a more pronounced tendency to employ pictures rather than graphs/charts. This would fit with more service-oriented sectors

needing more communication with the public and having a higher proportion of human capital. Additionally, Retail has more sale promotion tendencies.

The proportion of photographs used to communicate HIC is especially high. This fits in with existing literature highlighting the inadequacy of the traditional accounting framework to communicate intangibles (Campbell, McPhail and Slack (2009) and Bernardi, Bean and Weippert, (2005)).

The key findings are summarized in Appendix 7.

Chapter 5: Analysis of visual forms by country and industry sector

5.1 Introduction

This section aims at an in depth discussion of the three forms of visual data, namely, pure pictures, inserted pictures and graphs/charts. In linguistic function terms, pictures are divided into two subcategories, namely: ‘pure’ and ‘inserted’ pictures. A ‘pure’ picture (Table 4 series) is defined as being independent and having no inserted linguistic content. An ‘inserted’ picture is one inserted into a linguistic text. Both types of picture may be with or without a caption. A ‘pure’ picture without a caption will have no linguistic message to guide and ‘anchor’ its visual meaning or purpose.

Likewise, inserted pictures are divided into inserted photographs, inserted non-photographs, and inserted mixed pictures; moreover, each type of picture comprises three subcategories: IPWC (inserted pictures without captions), IPIC (inserted pictures with insider captions), and IPOC (inserted pictures with outsider captions). Insider captions are more advertisement-oriented, while outsider captions are more quotation and explanation-directed.

This section also carries on a further examination of detailed graphs/charts communication by country and industry sectors.

5.2 Pure pictures

5.2.1 Overall visual data findings [Tables 4.1 & 4.2]

Table 4.1 – Overall pure* pictures with and without captions by country and industry sector measured by units of occurrence							
	Without caption			With caption			Total
	Photos	Non-photos	Mixed pictures	Photos	Non-photos	Mixed pictures	
Banking/Financial Services							
UK	76	1	0	209	1	0	287
China H	32	14	0	158	10	0	214
China A	24	11	0	116	2	0	153
Logistics							
UK	73	1	0	207	32	0	313
China H	27	2	5	36	1	0	71
China A	11	2	3	20	9	0	45
Energy							
UK Energy	60	20	0	178	60	1	319
China H	119	17	2	75	23	1	237
China A	7	14	0	34	12	0	67
IT/Telecom							
UK	45	1	0	168	80	0	294
China H	37	5	0	153	10	0	215
China A	20	0	0	27	2	0	49
Retail							
UK	68	44	0	256	42	0	410
China H	50	8	0	64	80	9	211
China A	5	0	0	7	3	1	16

Table 4.2 – Overall pure pictures with and without captions by country and industry sector measured in units of space

	Without caption			With caption			Total
	Photos	Non-photos	Mixed pictures	Photos	Non-photos	Mixed pictures	
Banking/Financial Services							
UK	15	0.06	0	26	1	0	41
China H	8	7	0	16	1	0	32
China A	5	7	0	14	1	0	27
Logistics							
UK	17	0.06	0	26	2	0	46
China H	5	0.66	2	6	0.09	0	15
China A	3	0.66	2	2	2	0	9
Energy							
UK	8	0.24	0	29	8	1	46
China H	18	4	0.66	12	19	1	54
China A	0.36	3	0	2	7	0	12
IT/Telecom							
UK	11	0.02	0	22	2	0	35
China H	14	0.28	0	35	0.8	0	51
China A	8	0	0	1	0.87	0	10
Retail							
UK	4	2	0	30	0.92	0	38
China H	13	3	0	17	42	6	81
China A	4	0	0	3	1	1	8

Key: Pure means an independent picture with no interiorly inserted linguistic content

The main findings on pure picture distribution features are summarized as follows.

Firstly, UK firms produce far more units of pure pictures (on average, 1,623) than

both Chinese groups (China H, 948, and China A, 330.). However, the China H firms produce a higher volume (on average, 233 pages) of overall pure pictures than the UK ones do (206 pages). Thus, the UK firms are ranked first, the China H firms are ranked second and the China A firms are ranked last in occurrences of overall pure pictures. Conversely, in terms of space allocation, the China H firms are at the top, followed by the UK and the China A firms.

Secondly and both in unit of occurrence and unit of space, overall pure pictures with captions (average 2,087 units and 340 pages) are far more commonplace than pure pictures without captions (average 804 units and 165 pages), in accordance with the theoretical framework, which conceptually elaborates the relation and importance of the linguistic message to the visual one through the function of anchorage; an elucidative, selective and repressive control intended to fix, limit and hold the meaning of the visual image presentation when facing the projective power of visual images. In turn, these findings confirm this theoretical insight.

5.2.2 Human intellectual capital visual data findings [Tables 4.3 & 4.4]

Table 4.3 – HIC pure pictures with and without captions by country and industry sector measured by units of occurrence							
	Without caption			With caption			Total
	Photos	Non-photos	Mixed pictures	Photos	Non-photos	Mixed pictures	
Banking/Financial Services							
UK	62	0	0	172	0	0	234
China H	11	0	0	150	0	0	161
China A	7	0	0	109	0	0	116
Logistics							
UK	48	0	0	188	17	0	253
China H	10	0	2	8	0	0	20
China A	1	0	0	3	0	0	4
Energy							
UK	43	0	0	132	5	0	180
China H	25	0	2	54	8	0	89
China A	3	0	0	34	2	0	39
IT/Telecom							
UK	40	0	0	141	4	0	185
China H	30	0	0	123	2	0	155
China A	18	0	0	26	0	0	44
Retail							
UK	28	0	0	217	1	0	246
China H	38	2	0	47	2	5	94
China A	5	0	0	5	0	0	10

Table 4.4 – HIC pure pictures with and without captions by country and industry sector measured by units of space

	Without caption			With caption			Total
	Photos	Non-photos	Mixed pictures	Photos	Non-photos	Mixed pictures	
Banking/Financial Services							
UK	10	0	0	23	0	0	33
China H	2	0	0	14	0	0	16
China A	2	0	0	12	0	0	14
Logistics							
UK	10	0	0	19	0.85	0	29
China H	3	0	0.36	2	0	0	5
China A	0.22	0	0	0.18	0	0	0.40
Energy							
UK	5	0	0	20	0.58	0	25
China H	3	0	0.66	6	1	0	11
China A	0.19	0	0	2	0.31	0	2
IT/Telecom							
UK	11	0	0	19	0.04	0	30
China H	10	0	0	18	2	0	30
China A	7	0	0	1	0	0	8
Retail							
UK	3	0	0	24	0	0	27
China H	10	0.48	0	11	1	3	25
China A	4	0	0	3	10	0	17

The UK firms produce the largest total of 1,098 units of HIC related pure pictures, followed by the China H firms (519) and the China A ones (213). Furthermore, the

UK firms also produce a higher volume of space of pure pictures related to HIC (an average 144 pages) than both China H (87) and China A firms (41), which implies that the UK firms have a greater propensity to communicate HIC through pure pictures rhetoric than both groups of Chinese firms.

Similarly and both in unit of occurrence and unit of space, HIC related pure pictures with captions (average 1,455 units and 193 pages) are far more commonplace than HIC related pure pictures without captions (average 375 units and 79 pages), which greatly highlights the significance of captions in the explanation and navigation of pure picture information.

5.2.3 Detailed analysis of tables [Tables 4.1 to 4.4]

Detailed analysis of Table 4.1 – Overall visual data: pure pictures without captions and with captions by country and industry sector in occurrence

As shown in Table 4.1, the UK Retail sector sample produces the largest total of 410 units of occurrence of pure pictures, followed by Energy (319), Logistics (313), IT/Telecom (294) and, lastly, Banking/Financial Services (287). The ranking shows that Banking/Financial Services is the least active in the production of pure pictures, which is still dominated by Retail; Energy also shows great initiative in putting out pure pictures. The table shows that the UK sample industries apparently prefer pure pictures with captions over ones without.

The UK Retail sector sample produces the highest volume of 324 units of pure photographs in total, comprising 256 ones with captions and 68 without, followed by Banking/Financial Services (209 and 76), Logistics (207 and 73), Energy (178 and 60), and IT/Telecom (168 and 45). The ranking shows that pure photographs are more employed by Banking/Financial Services and Retail than by other industries; pure photographs with captions are far more widespread than ones without, which is in accordance with the theoretical framework.

Likewise, the UK firms produce 215 non-photographs with captions overall, a much higher number than those without (67), among the UK industry sectors IT/Telecom produces the highest volume and Energy is ranked second, whereas there is a marked slump in Retail and Banking/Financial Services, which indicates a preference for pure photographs. Further, none of the UK industry sample sectors produce pure mixed pictures except Energy, which only produces 1; this indicates a lack of awareness for the use of pure mixed pictures by the UK industries

Differently, China H's total pure pictures are ranked by industry sector as follows: Energy 237, IT/Telecom 215, Banking/Financial Services 214, Retail 211 and Logistics 71. The ranking shows that, with the exception of Logistics, there is no great gap between sectors. It is clear that pure pictures are widely used to present intangibles by both the UK and the China H Energy sectors.

The detailed data relating to pure pictures shows that the China H firms produce a total of 265 pure photographs without captions and 486 ones with, which add up to a total of 751 pure photographs. This is followed by 507 non-photographs in total, comprising 140 non-photographs without captions and 367 ones with, and a total of 22 mixed pictures; 10 without captions and 12 with. This ranking shows that pure photographs are much more widely used than other pure pictures by China H firms in their annual reports.

Among China H sectors, Banking/Financial Services produces 158 pure photographs with captions (the largest amount) and 32 ones without, followed by IT (153 and 37), Energy (75 and 119, the largest number pure photographs without captions), Retail (64 and 50) and Logistics (36 and 27). The ranking shows that pure photographs with captions are most widely used in the annual reports of the China H Banking/Financial Services sector sample and pure photographs without captions are most widely used in those of the China H Energy sector sample.

Comparatively, China H Retail produces the highest volume of pure non-photographs with captions (80) and 8 pure ones without, followed by Energy (23 and 17), Banking/Financial Services (10 and 14), IT/Telecom (10 and 5) and Logistics (1 and 2). However, pure mixed pictures are much less commonplace than other types; the only China H sectors producing any pure mixed pictures with captions are Retail (9) and Energy (1); with regard to pure mixed pictures without captions, only Logistics

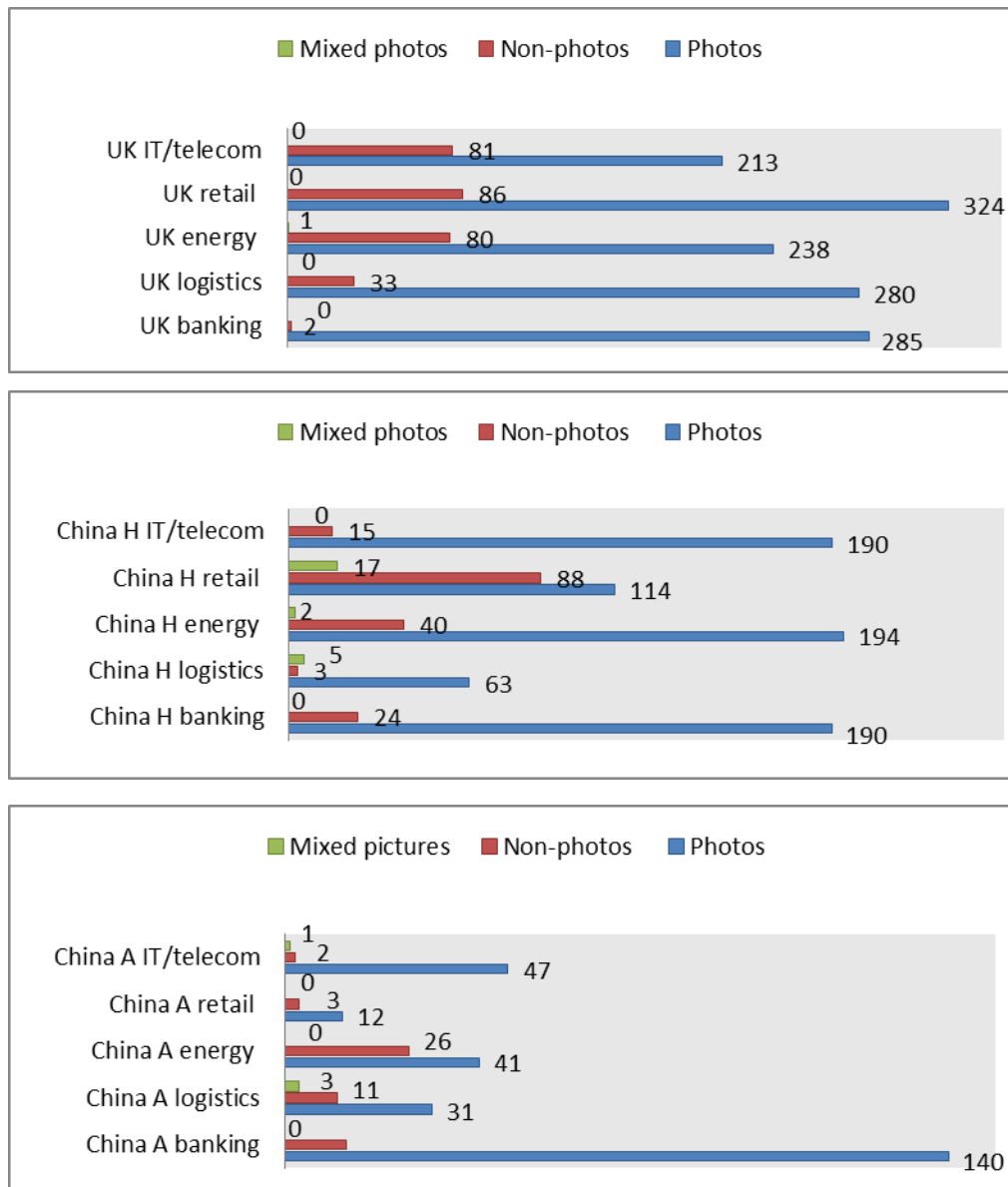
and Energy produce any (5 and 2, respectively).

The table also shows that, among all groups, the China A firms produce the least volume of all three pure picture types. In detail and altogether, the China A firms produce 67 pure photographs without captions and 204 ones with, for a total of 271, followed by 55 pure non-photographs, including 27 without captions and 28 ones with, and 4 pure mixed pictures, encompassing 3 without captions and 1 with. Pure photographs are dominant in absolute volume and pure pictures with captions are much more used than those without, except in the case of pure mixed pictures.

The comparison between industries shows that China A Banking/Financial Services produces the highest volume of pure photographs with captions (116) and 24 ones without, followed by Energy (34 and 7), IT/Telecom (27 and 20), Logistics (20 and 11) and, lastly, Retail (7 and 5). In terms of pure non-photographs rankings, China A Energy produces the highest volume of pure non-photographs with captions (12) and 14 ones without, followed by Logistics (9 and 2), Retail (3 and 0), Banking/Financial Services (2 and 11) and IT/Telecom (2 and 0). Only China A Retail produces any pure mixed pictures with captions (just 1) and only Logistics produces any without (3). Thus, the China A firms prefer to use pure photographs more than other types of pure pictures; Banking/Financial Services dominates in the pure photographs with captions and Energy is keener to use pure non-photographs with captions. The comparative study of the three types of pure pictures among the three groups is illustrated in Graph

39.

Graph 39: The comparative study of the three types of pure pictures among the three groups



Detailed analysis of Table 4.2 – Overall visual data: pure pictures with and without captions by country and industry sector in terms of space

According to the data collected in Table 4.2, all groups together produce 339 pages of

pure pictures with captions, encompassing 242 of pure photographs, 88 of pure non-photographs and 9 of pure mixed pictures with captions; by comparison, all groups together produce 168 pages of pure pictures without captions, including 135 of pure photographs, 28 of pure non-photographs and 5 of pure mixed pictures. Thus, the former are produced twice as much as the latter, as is indicated by the conspicuous gap between them, which also indicates the propensity of both the UK and Chinese firms to make widespread use of captions in pure picture presentation.

Conversely, by industry sectors, the China H firms signal a dramatic increase in their pure pictures space volume, leading to the surprising result of their Retail, IT/Telecom and Energy sector sample firms dominating in the ranking of their respective sectors across all groups; the UK's Banking/Financial Services and Logistics outstrip their corresponding sector sample firms from the other groups; the China A firms produce the fewest pure pictures of all. This indicates that the China H firms make full use of the impact of Hong Kong's dual orientation between east and west to optimize their visual communication domestically and overseas.

In more detail and as shown in the following Graph 40, the UK Retail firms produce the largest space of pure photographs with captions (30 pages) and 4 pages of pure photographs without captions, followed by Energy (29 and 8), Logistics (26 and 17), Banking/Financial Services (26 and 15) and IT/Telecom (22 and 11). Comparatively, the UK Energy sample firms generate the highest volume of pure non-photographs

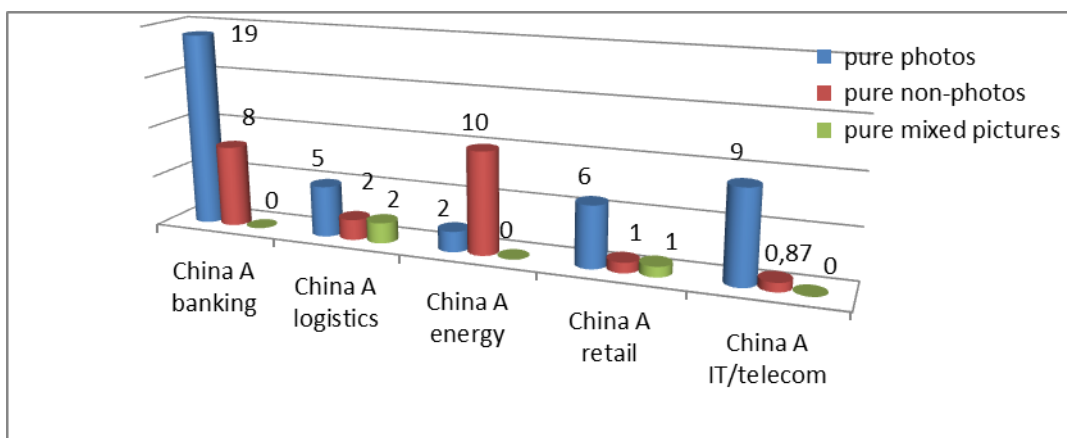
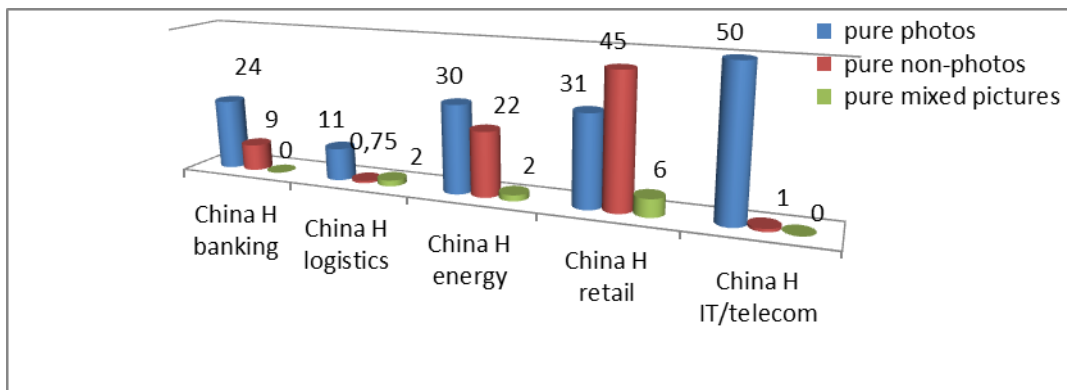
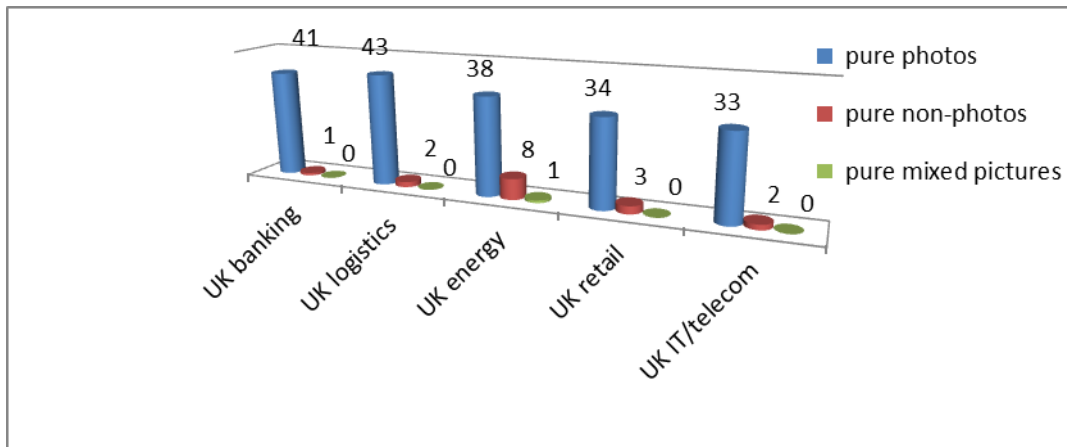
with captions (8 pages) and 0.24 pages of those without, followed by Logistics (2 and 0.06), IT/Telecom (2 and 0.02), Banking/Financial Services (1 and 0.06) and Retail (0.92 and 2). Further, among UK sectors, only Energy produces 1 pure mixed photo. There is the distinct gap between the three types of pure pictures in the UK firms' annual reports, pure photographs being far more widely employed than the other types.

Differently, the China H IT/Telecom sector sample firms produce the highest volume of pure photographs with captions (35 pages) and 14 pages of those without captions, followed by Retail (17 and 13), Banking/Financial Services (16 and 8), Energy (12 and 18) and Logistics (6 and 5). The pure non-photographs of the China H firms are ranked starting with Retail, with the biggest area of pure non-photographs with captions (42 pages), and 3 pages of those without captions, down to Energy (19 and 4), Banking/Financial Services (1 and 7), IT/Telecom (0.8 and 0.28) and Logistics (0.09 and 0.66). Only two of the China H sectors produce pure non-photographs, namely: Retail (6 with captions and none without) and Energy (1 and 0.66).

The China A Banking/Financial Services sector sample firms produce the biggest area of pure photographs with captions (14 pages) and 5 pages of those without captions, followed by Retail (3 and 4), Logistics (2 and 3), Energy (2 and 0.36) and IT/Telecom (1 and 8). In the pure non-photographs rankings, Energy produces the highest volume of them, with 7 pages with captions and 3 pages without. With regard to pure mixed

pictures, only Retail and Logistics produce any of them without captions (1 and 2, respectively). The above three rankings are illustrated in Graph 40.

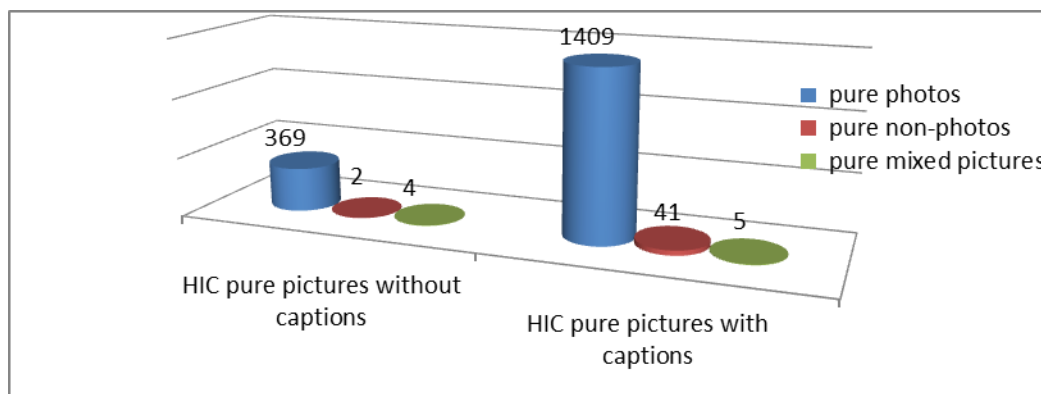
Graph 40: The comparison between the three types of pure pictures among the three groups in units of space



Detailed analysis of Table 4.3 – HIC visual data: pure pictures with and without captions by country and industry sector in terms of occurrences

Specifically, as illustrated in the following Graph 41, the overall amount of HIC pure pictures without captions of all groups is 375, which comprises 369 pure photographs, 2 pure non-photographs and 4 pure mixed pictures. In comparison, the totality of HIC pure pictures of all groups is 1,455, which encompasses 1,409 pure photographs, 41 pure non-photographs and 5 pure mixed pictures. The statistical results show that, overall, the HIC related pure pictures with captions are nearly four times as many as those without, which clearly implies the importance of the linguistic message of captions to the visual one of the pictures, due to their intrinsic projective and purposeful rhetoric related to intangibles, which is underpinned by Barthes’s image theory.

Graph 41: The proportions among HIC pure pictures with and without captions



By industry sector, the UK Retail sample firms produce the highest volume of HIC related pure photographs (217 with captions and 28 without), followed by Logistics

(188 and 48), Banking/Financial Services (172 and 62), IT/Telecom (141 and 40) and Energy (132 and 43). The ranking shows that Banking/Financial Services produces a dramatically larger volume of HIC associated pure photographs, whereas Energy produces significantly less. HIC pure photographs with captions are again conspicuously preponderant over those without.

Comparatively, UK Logistics produces the biggest amount of 17 HIC pure non-photographs with captions and 0 without, followed by Energy (5 and 0), IT/Telecom (4 and 0), Retail (1 and 0) and Banking/Financial Services (0 and 0). Also, UK firms produce no HIC pure mixed pictures. It is clear that both the UK Banking/Financial Services and Retail sector sample firms use few pure non-photographs and pure mixed pictures, which are relatively more commonly used by the UK sample firms from Logistics and Energy. This further widens the gap between HIC related pure photographs and non-photographs or mixed pictures.

The China H Banking/Financial Services sample produces the biggest amount of HIC pure photographs with captions (150) and 11 without, followed by IT/Telecom (123 and 30), Energy (54 and 25), Retail (47 and 38) and Logistics (8 and 10). Apparently, the total volume of HIC pure photographs produced by the China H firms is dramatically lower than that of the UK ones. Moreover, pure photographs are more commonly used by the China H Banking/Financial Services and IT/Telecom sectors sample firms than they are by the UK ones; the opposite situation occurs in the case of

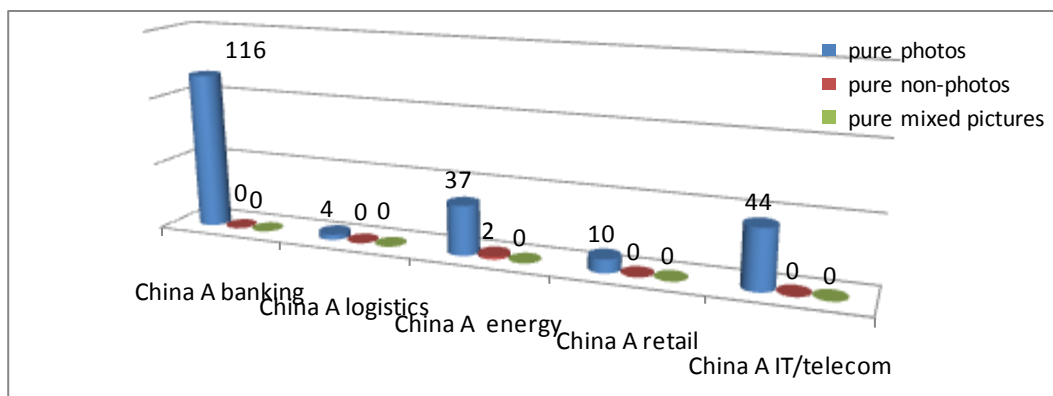
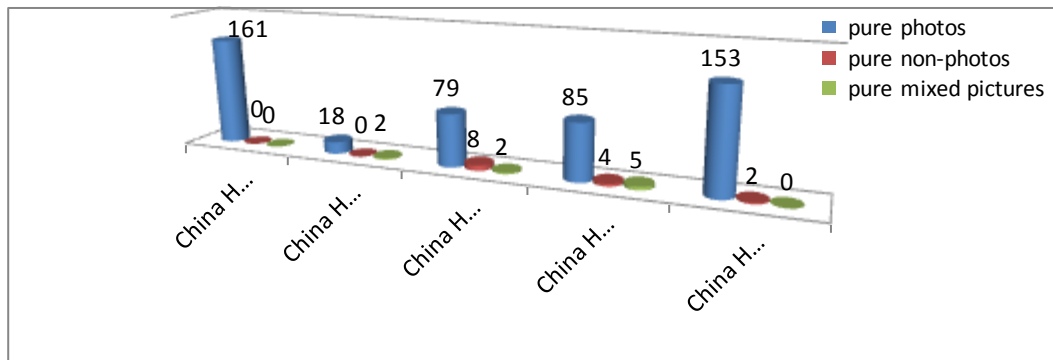
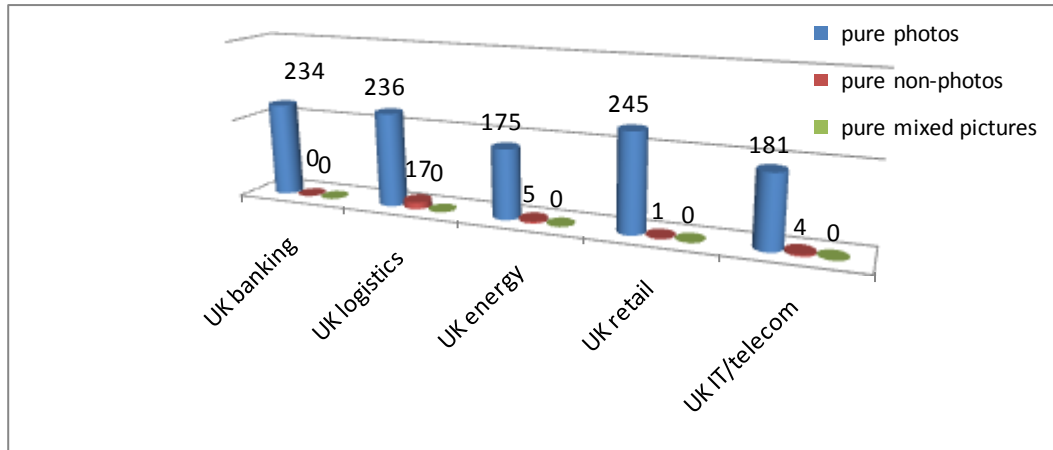
the Retail and Logistics sectors sample firms, where the UK HIC pure photographs volume is higher than the China H one.

Arrestingly, among the China H firms, HIC relevant non-photographs with captions are produced only by the Energy (8), IT/Telecom (2) and Retail (2). Likewise, only the China H Retail firms produce 2 non-photographs without captions. No China H sectors produce any HIC related pure mixed pictures, which indicates an obvious gap between the China H and UK firms with regard to pure non-photographs and mixed pictures related to human capital.

Like the China H firms, the China A Banking/Financial Services sample produces the highest volume of HIC pure photographs with captions (109) and 7 without; this is followed by Energy (34 and 3), IT/Telecom (26 and 18), Retail (5 and 5) and Logistics (3 and 1). However, only the China A Energy sector sample produces any HIC pure non-photographs with captions (2), the others produce none, which represents a significant difference between the China A sample firms and those of the other groups. Briefly, the China A firms show the least pure pictures awareness of all. The comparison between the three groups in respect of pure pictures is illustrated in Graph 42.

Graph 42: The proportions of HIC pure pictures by industry between the three groups

by units of occurrence



Detailed analysis of Table 4.4 – HIC visual data: pure pictures with and without captions by country and industry sector in terms of space

Compared to the previous table relating to the overall pure pictures in terms of space,

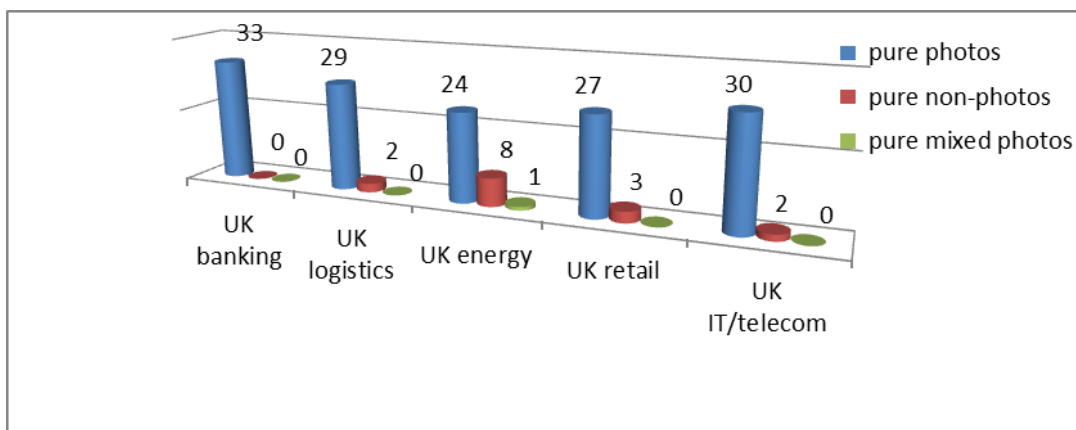
in which the China H firms dominate the UK ones in space volume, Table 4.4 reveals a noteworthy trend, with the UK firms totally dominating both groups of Chinese firms with regard to HIC pure pictures measured in terms of space. This clearly indicates that the UK firms are much more aware of the role of HIC in visual communication than the Chinese ones, especially in respect of HIC related pure photographs.

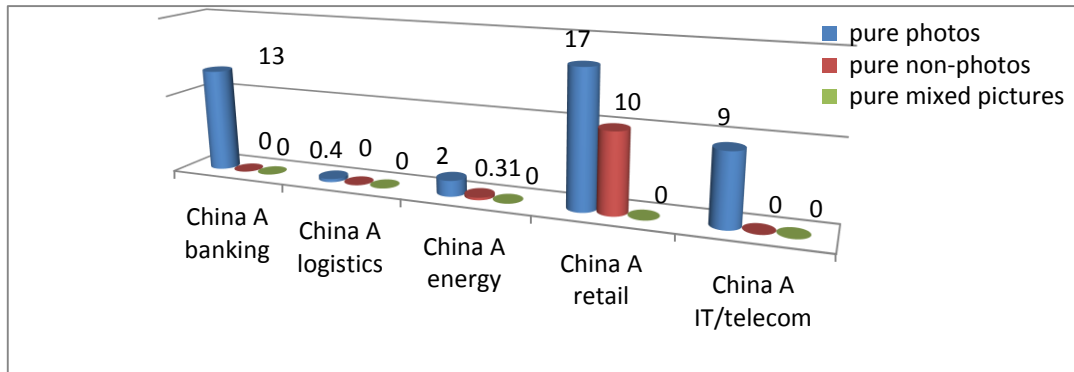
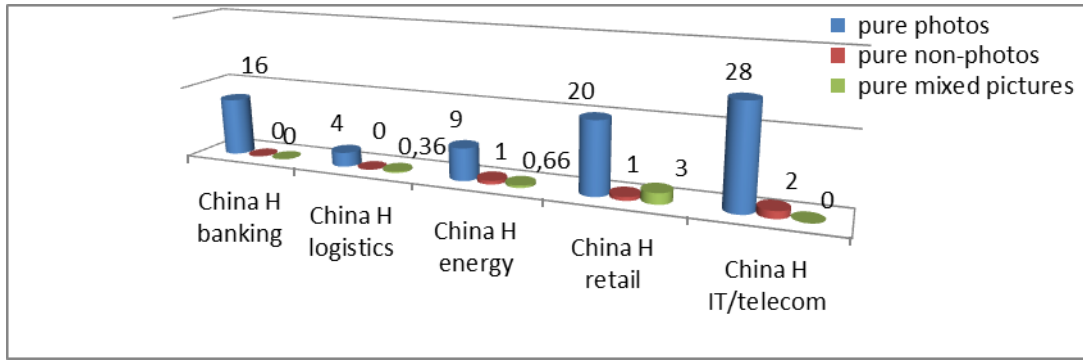
Not only that; there are overall 192 pages of HIC pure pictures with captions, comprising 173 pages of pure photographs, 16 of pure non-photographs and 3 of pure mixed pictures. This is over two and half times as many as the totality of HIC pure pictures without captions (80 pages), which include 79 pages of pure photographs, 0.48 of pure non-photographs and 1 of pure mixed pictures. This indicates a strong awareness of the linguistic message pilot in visual communication by all groups. The gap between HIC pure pictures with and without captions is apparently wider than that between the same two types of general pure pictures, which hints at the significance of the HIC factor.

The data on HIC related pure pictures collected in Table 4.4 is illustrated and comparatively analysed in the following Graph 43, which visually presents the distribution of the three types of HIC pure pictures, the differences between the industry sectors and the gap between the groups. The key points are as follows: 1) there is no obvious difference between the UK sample industries in terms of HIC

related pure photographs with captions, whereas a gap between the China H sample industries is evident; 2) the Banking/Financial Services sample across all groups shows a higher number of occurrences of pure photographs; additionally, Banking/Financial Services is more highlighted and ranked the largest one by UK firms than Chinese firms, Retail and IT/Telecom are prevalent and ranked top by Chinese firms; 3) distinctly, the visual volume of both HIC related pure non-photographs and pure mixed pictures is greatly reduced, the former being larger than the latter; 4) thus, the overall volume of HIC pure photographs with and without captions is ranked down from the UK firms to the China H ones, with the China A firms having the smallest volume.

Graph 43: The proportions of the three types of HIC related pure pictures among the three groups in terms of space





5.3 Inserted pictures

5.3.1 Overall visual data findings [Tables 5.1 & 5.2]

Table 5.1 – Overall inserted* pictures with and without captions by country and industry sector measured by units of occurrence										
	Photos			Non-photos			Mixed pictures			Total
	IPWC*	IPIC*	IPOC*	IPWC	IPIC	IPOC	IPWC*	IPIC*	IPOC	
Banking/Financial Services										
UK	57	2	79	0	1	3	3	0	0	
Subtotal	138			4			3			145
China H	43	6	83	1	12	1	0	0	0	
Subtotal	132			14			0			146
China A	24	5	56	1	6	1	0	0	0	
Subtotal	85			8			0			93
Logistics										
UK	40	5	57	4	7	5	0	0	0	
Subtotal	102			16			0			118
China H	29	7	21	2	1	1	2	2	2	
Subtotal	57			4			6			67
China A	8	0	2	0	0	0	0	0	0	
Subtotal	10			0			0			10
Energy										
UK	9	22	19	0	0	0	0	0	0	
Subtotal	50			0			0			50
China H	9	6	6	0	1	0	0	1	0	
Subtotal	21			1			1			23
China A	1	1	0	0	0	0	0	0	0	
Subtotal	2			0			0			2
IT/Telecom										
UK	12	2	13	0	0	4	0	0	0	
Subtotal	27			4			0			31
China H	13	3	57	0	0	1	0	0	0	
Subtotal	73			1			0			74
China A	7	1	0	0	0	0	0	0	0	
Subtotal	8			0			0			8
Retail										
UK	41	9	169	0	0	0	0	0	0	
Subtotal	219			0			0			219
China H	82	21	61	1	0	0	2	4	6	
Subtotal	164			1			12			177
China A	2	0	1	0	0	0	0	0	0	
Subtotal	3			0			0			3

Table5.2 – Overall inserted* pictures with and without captions by country and industry sector measured in terms of space

	Photos			Non-photos			Mixed pictures			Total
	IPWC	IPIC	IPOC	IPWC	IPIC	IPOC	IPWC	IPIC	IPOC	
Banking/Financial Services										
UK	14	0.83	14	0	1	0.17	0.21	0	0	
Subtotal		29			1			0.21		30
China H	18	6	10	1	8	0	0	0	0	
Subtotal		34			9			0		43
China A	11	5	6	1	2	0.77	0	0	0	
Subtotal		22			4			0		26
Logistics										
UK	15	3	15	2	7	0.40	0	0	0	
Subtotal		33			9			0		42
China H	11	7	3	2	1	0.07	3	2	1	
Subtotal		21			3			6		30
China A	4	0	0.32	0	0	0	0	0	0	
Subtotal		4			0			0		4
Energy										
UK	2	8	2	0	0	0	0	0	0	
Subtotal		12			0			0		12
China H	2	3	1	0	1	0	0	1	0	
Subtotal		6			1			1		8
China A	0.13	1	0	0	0	0	0	0	0	
Subtotal		1			0			0		1
IT/Telecom										
UK	0.55	2	2	0	0	0.04	0	0	0	
Subtotal		4			0.04			0		4
China H	1	0.40	6	0	0	0.06	0	0	0	
Subtotal		7			0.06			0		7
China A	1	0.18	0	0	0	0	0	0	0	
Subtotal		1			0			0		1
Retail										
UK	4	7	22	0	0	0	0	0	0	
Subtotal		33			0			0		33
China H	6	7	9	0.05	0	0	1	1	2	
Subtotal		22			0.05			4		26
China A	0.05	0	0.02	0	0	0	0	0	0	
Subtotal		0.07			0			0		0.07

*Inserted picture: a picture inserted into the linguistic text.

*IPWC: inserted pictures without caption

*IPIC: inserted pictures with inside caption

*IPOC: inserted pictures with outside caption

H: Hong Kong firms

A: Mainland Chinese firms

The collected inserted pictures data show that the UK firms produce on average the highest volume of in total across all industry sectors (563 units and 122 pages), followed by the China H firms (487 and 114) and the China A ones (116 and 32), which clearly indicates that the UK firms are more linguistically-aware in visual communication than their Chinese counterparts. Furthermore, the Hong Kong firms are rather active in integrating linguistic message and picture for a more effective communication due to their specific mid-way position between east and west.

The analysis applied only to industry sectors finds that Retail produces the highest occurrences of inserted pictures in total (399 units), followed by Banking/Financial Services (384), Logistics (195), IT/Telecom (113) and Energy (75). Conversely, in terms of space presentation, Banking/Financial Services produces the most average space of inserted pictures (99 pages), followed by Logistics (76), Retail (60), Energy (21) and IT/Telecom (13). The above ranking shows that Retail tends to privilege occurrence more than other sectors, while Banking/Financial Services tends to emphasize space more than others; although this actually implies a significant number of occurrences as well.

5.3.2 Human intellectual capital visual data findings [Tables 5.3 & 5.4]

Table 5.3 – HIC inserted pictures with and without captions by country and industry sector measured in units of occurrence										
	Photos			Non-photos			Mixed pictures			Total
	IPWC	IPIC	IPOC	IPWC	IPIC	IPOC	IPWC	IPIC	IPOC	
Banking/Financial Services										
UK	41	2	56	0	0	0	3	0	0	
Subtotal		99			0			3		102
China H	24	3	45	0	0	0	0	0	0	
Subtotal		72			0			0		72
China A	13	5	34	0	0	0	0	0	0	
Subtotal		52			0			0		52
Logistics										
UK	24	5	26	0	1	2	0	0	0	
Subtotal		55			3			0		58
China H	5	1	8	0	0	0	1	1	2	
Subtotal		14			0			4		18
China A	0	0	0	0	0	0	0	0	0	
Subtotal		0			0			0		0
Energy										
UK	6	16	17	0	0	0	0	0	0	
Subtotal		39			0			0		39
China H	4	4	4	0	0	0	0	0	0	
Subtotal		12			0			0		12
China A	0	1	0	0	0	0	0	0	0	
Subtotal		1			0			0		1
IT/Telecom										
UK	5	2	8	0	0	0	0	0	0	
Subtotal		15			0			0		15
China H	8	3	29	0	0	1	0	0	0	
Subtotal		40			1			0		41
China A	4	1	0	0	0	0	0	0	0	
Subtotal		5			0			0		5
Retail										
UK	20	8	79	0	0	0	0	0	0	
Subtotal		107			0			0		107
China H	19	13	41	1	0	0	2	4	6	
Subtotal		73			1			12		86
China A	0	0	1	0	0	0	0	0	0	
Subtotal		1			0			0		1

Table 5.4 - HIC inserted pictures with and without captions by country and industry sector measured by units of space

	Photos			Non-photos			Mixed pictures			Total
	IPWC	IPIC	IPOC	IPWC	IPIC	IPOC	IPWC	IPIC	IPOC	
Banking/Financial Services										
UK	11	0.83	12	0	0	0	0.21	0	0	
Subtotal		24			0			0.21		25
China H	7	2	7	0	0	0	0	0	0	
Subtotal		16			0			0		16
China A	4	5	5	0	0	0	0	0	0	
Subtotal		14			0			0		14
Logistics										
UK	9	3	9	0	1	0.22	0	0	0	
Subtotal		22			1			0		23
China H	2	1	1	0	0	0	1	1	1	
Subtotal		4			0			3		7
China A	0	0	0	0	0	0	0	0	0	
Subtotal		0			0			0		0
Energy										
UK	1	7	1	0	0	0	0	0	0	
Subtotal		9			0			0		9
China H	0.72	2	0.69	0	0	0	0	0	0	
Subtotal		3			0			0		3
China A	0	1	0	0	0	0	0	0	0	
Subtotal		1			0			0		1
IT/Telecom										
UK	0.43	2	1	0	0	0	0	0	0	
Subtotal		4			0			0		4
China H	0.83	0.40	3	0	0	0.06	0	0	0	
Subtotal		4			0.06			0		4
China A	0.44	0.18	0	0	0	0	0	0	0	
Subtotal		0.62			0			0		1
Retail										
UK	2	5	12	0	0	0	0	0	0	
Subtotal		19.13			0			0		19
China H	2	6	6	0.05	0	0	1	1	2	
Subtotal		14			0.05			4		18
China A	0	0	0.02	0	0	0	0	0	0	
Subtotal		0.02			0			0		0.02

The collected data on inserted pictures shows that the UK firms produce the highest

volume of both average units and pages (321 and 80), the China H firms are ranked in the middle with 229 units and 48 pages, and last are China A firms, with only 59 units and 16 pages. This ranking indicates the UK firms make a much wider use of HIC inserted pictures than the Chinese firms; although the Hong Kong firms are also rather active in their application of them. These are the general trends of HIC relevant inserted pictures by country.

The industry sector analysis clearly indicates that the Banking/Financial Services sector sample produces the highest volume of HIC inserted pictures (average 226 units and 55 pages), followed by Retail (194 and 37), Logistics (76 and 30), IT/Telecom (61 and 9) and Energy (52 and 13). This ranking indicates that the Banking/Financial Services and Retail sector samples lead the field in terms of HIC relevant inserted pictures presentation.

5.3 3 Detailed analysis of tables [Tables 5.1 to 5.4]

Detailed analysis of Table 5.1 – Overall visual data: inserted pictures with and without captions by country and industry sector by number of occurrences*

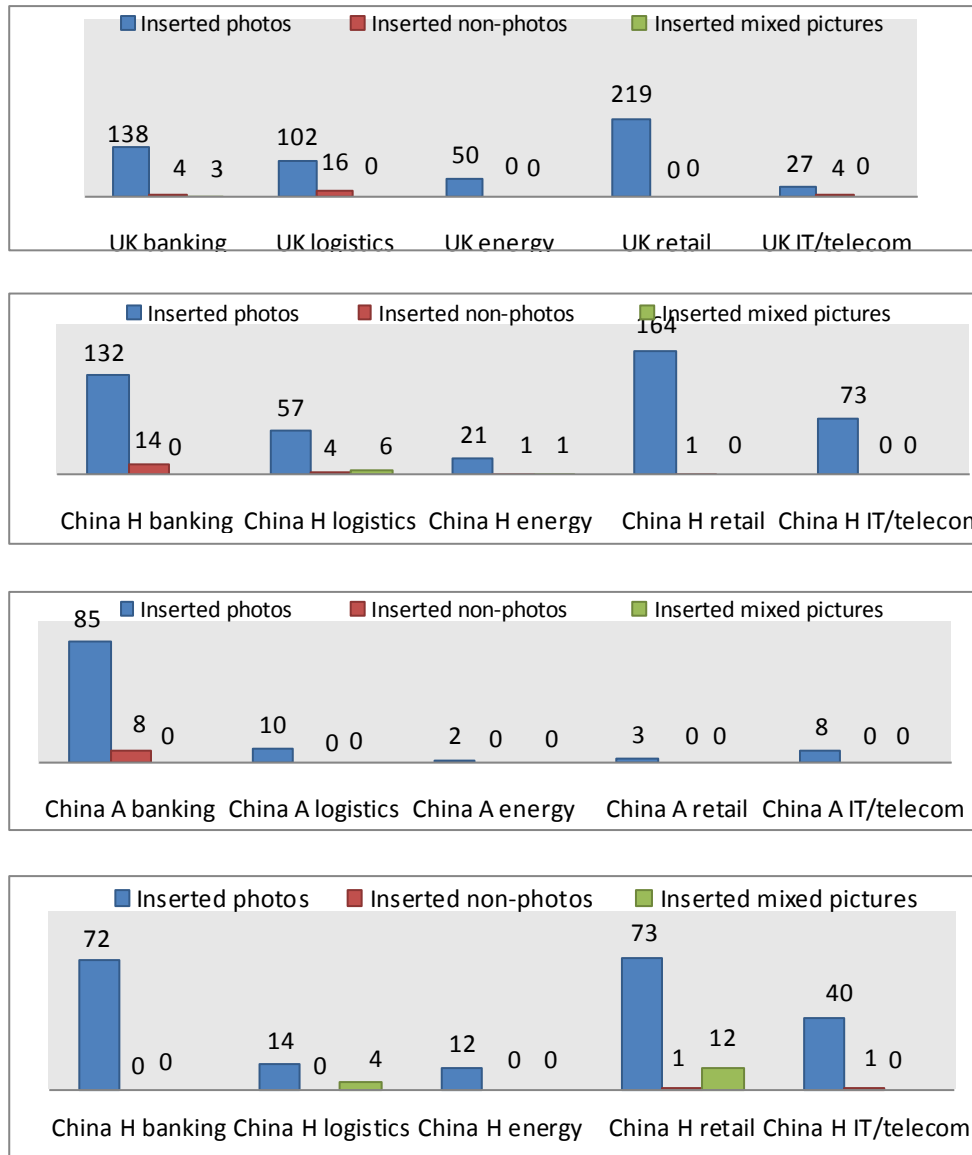
Table 5.1 shows the trends of overall inserted pictures among different industry sectors and the proportions between the investigated groups. The total amounts in each sector show that the UK firms produce a greater volume of inserted pictures in Retail, Logistics and Energy than their Chinese counterparts; while the China H firms show a dominance in Banking/Financial Services and IT/Telecom, which hints at an

increase in linguistic message awareness in visual communication in the annual reports of the Chinese firms listed in the Hong Kong stock exchange. The China A firms still fall behind the other groups in this aspect. The summarized data is analysed and illustrated in the following Graph 44.

In detail and as shown in Graph 44, the UK Retail sector sample produces the biggest number of inserted photographs (219 units), followed by Banking/Financial Services (138), Logistics (102), Energy (50) and IT/Telecom (27). Likewise, the China H Retail sector sample produces the highest volume of inserted photographs (164 pages), followed by Banking/Financial Services (132), IT/Telecom (73), Logistics (57), and Energy (21). Comparatively, among the China A sector samples, Banking/Financial Services similarly produces the highest volume of inserted photographs (85), followed by Logistics (10), IT/Telecom (8), Retail (3) and Energy (2). The above ranking shows that inserted photographs are most widely used in Retail and Banking/Financial Services; whereas photographs are used more widely by the China H IT/Telecom sector sample firms than by their UK counterparts.

Conspicuously and among inserted pictures, it is a common feature of all groups that photographs are the most used, followed, in order, by non-photographs and mixed pictures. Furthermore, the China H firms produce more non-photographs and mixed pictures (except for the Logistics sector sample) than their UK counterparts.

Graph 44: The proportions of the three types of inserted pictures among the three groups by units of occurrence



Detailed analysis of Table 5.2 – Overall visual data: inserted pictures with and without captions by country and industry sector in terms of space

Table 5.2 shows the trend of the overall inserted pictures space occupation. The collected data shows that the area allocated to overall inserted pictures by UK firms is 122 pages, clearly bigger than that of both the China H (114) and China A firms (32);

however, the China H firms' have an advantage in both Banking/Financial Services (43) and IT/Telecom (7) over their UK counterparts (30 and 4 respectively).

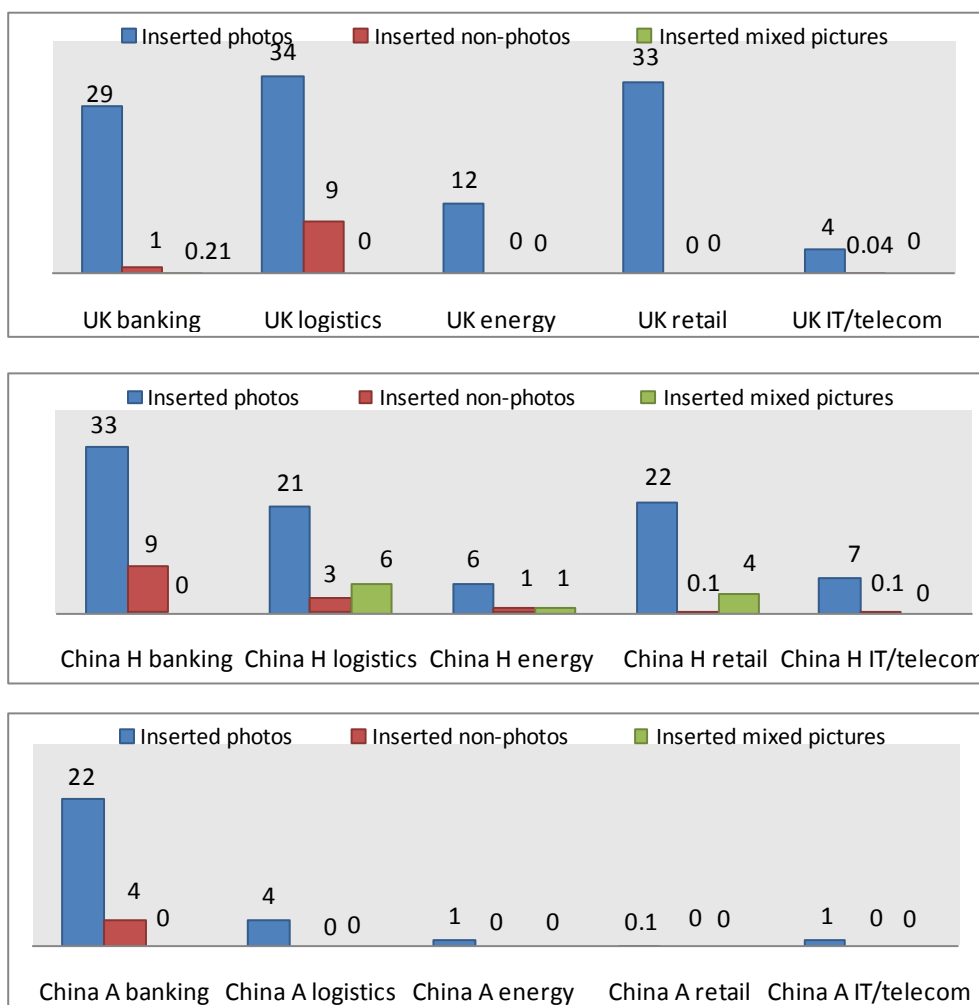
For all groups, the space occupied by inserted photographs is bigger than that of non-photographs and mixed pictures, which indicates that inserted photographs are more prevalent in terms of space rhetoric than the other types of pictures. As shown in the following Graph 45, a further comparative study on the industry sectors finds that the UK Logistics produce the biggest area of inserted photographs (34 pages), followed by Retail (33), Banking/Financial Services (29), Energy (12) and IT/Telecom (4). Comparatively, only three UK industries produce any inserted non-photographs in terms of space rhetoric, namely: Logistics (9), Banking/Financial Services (1) and IT/Telecom (0.04). Also, only the UK Banking/Financial Services produce any pages of inserted mixed pictures (0.21), whereas the other sector samples produce none. There is a large gap between the three inserted picture types in the annual reports of the investigated UK firms.

The China H Banking/Financial Services allots the biggest area to inserted photographs (33 pages), leaving only 9 pages to inserted non-photographs and none to inserted mixed pictures, followed by Retail (22, 0.1 and 4), Logistics (21, 3 and 6), IT/Telecom (7, 0.1 and 0) and Energy (6, 1 and 1).

The China A Banking/Financial Services produce the biggest area of inserted

photographs (22 pages), leaving only 4 pages to inserted non-photographs and none to inserted mixed pictures, followed by Logistics (4, 0 and 0), IT/Telecom (1, 0 and 0), Energy (1, 0 and 0) and Retail (0.1, 0 and 0).

Graph 45: The proportions among the three types of inserted pictures for the three groups in terms of space



Detailed analysis of Table 5.3 – HIC visual data: inserted pictures with and without captions by country and industry sector by occurrences

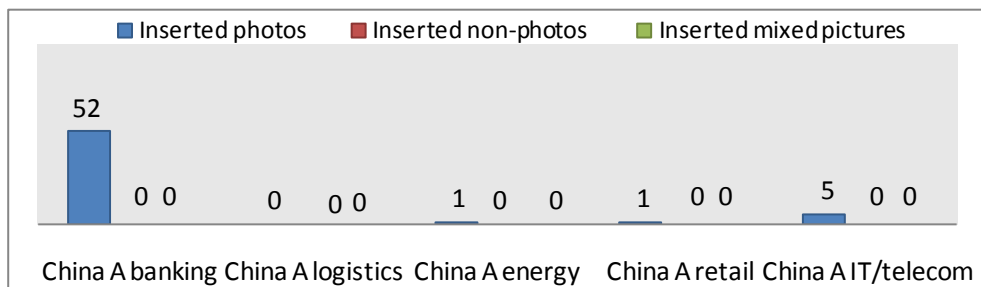
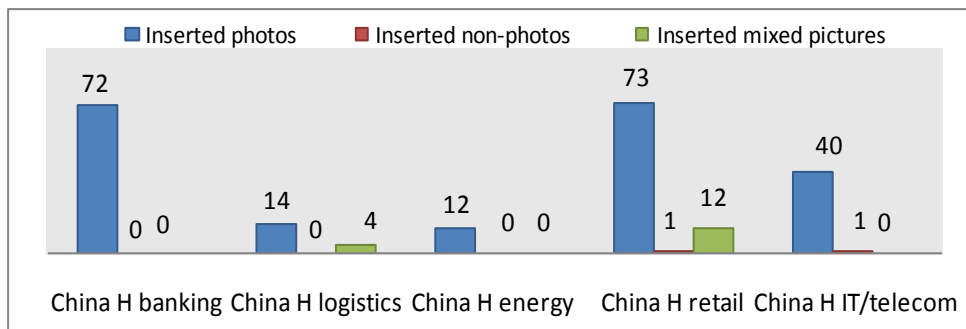
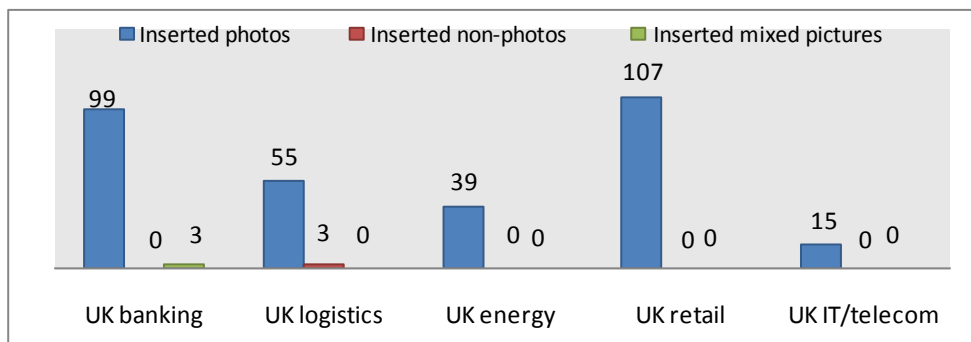
Compared to the previous Table 5.1, the data related to HIC in Table 5.3 shows a

wider gap in terms of volume of overall human capital inserted pictures between the UK and Chinese firms, which reveals the inclination of the UK firms to use more inserted pictures relating to HIC communication than the Chinese ones. However, the China H IT/Telecom sector sample produces many more photographs than its UK counterpart, as discussed above, which could be explained by the service sector being more prevalent in the UK, while the IT/Telecom one is in China.

As shown in Graph 46, the UK Retail sample firms produce the highest volume of human intellectual capital inserted photographs (107), followed by Banking/Financial Services (99), Logistics (55), Energy (39) and IT/Telecom (15), which makes the UK firms the largest users of total human inserted photographs of all groups. The second largest group is made up of the China H sample firms, of which Retail produces the most of inserted photographs (73), followed by Banking/Financial Services (72), IT/Telecom (40), Logistics (40) and Energy (12). Last are the China A firms, of which Banking/Financial Services produces the most inserted photographs (52), followed by IT/Telecom (5), Retail (1), Energy (1) and Logistics (0). The ranking reveals that Banking/Financial Services and Retail are much keener to use inserted photographs than are the other sectors. By contrast, both inserted non-photographs and inserted mixed pictures are greatly less produced; only the UK Logistics produces 3 non-photographs and both the China H IT/Telecom and Retail produce 1. Human related inserted mixed pictures are only produced by the UK Banking/Financial Services (3) and the China H Logistics (4) and Retail (12). The distinct gap between

human inserted photographs and the other human inserted picture types is due to the pictures related to human pictures being generally generated by means of digital cameras.

Graph 46: The proportions among the three types of HIC inserted pictures between the three groups by units of occurrence



Detailed analysis of Table 5.4 – HIC visual data: inserted pictures with and without captions by country and industry sector in terms of space

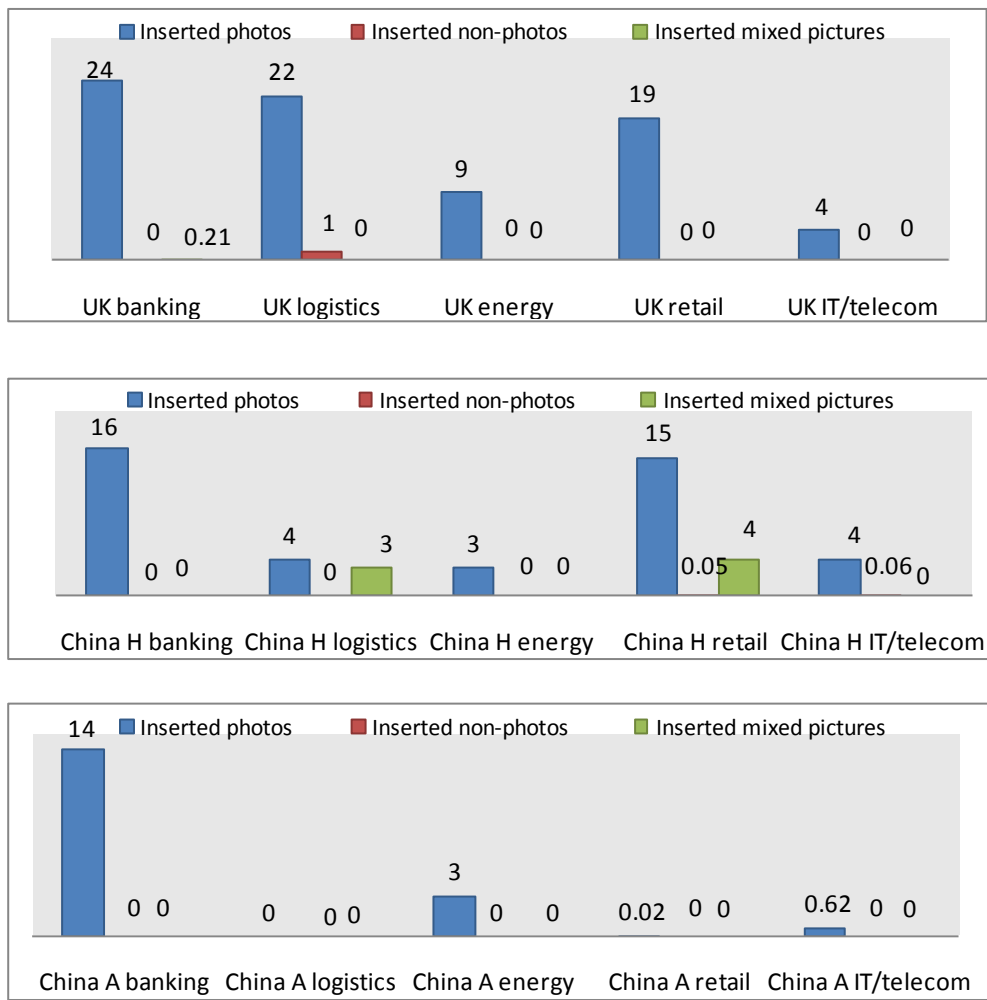
Table 5.4 shows the trends of HIC related inserted pictures in terms of space. As is the case for the overall inserted pictures, the total area of inserted pictures allocated by the UK firms' and associated with HIC is 80 pages, which is the largest of all, followed by the China H (48) and China A firms (only 16). However, the China H IT/Telecom produces more pages of HIC inserted pictures (4 pages) than its China A counterpart (1 page).

As shown in Graph 47, with its high volume (24 pages) the UK Banking/Financial Services are ranked top in the UK industry sector list, followed by Logistics (22), Retail (19), Energy (9) and IT/Telecom (4). There is no production of inserted non-photographs and mixed pictures related to HIC in all the UK industries' annual reports except for the UK Logistics (1 page) and Banking/Financial Services (0.21 pages) of mixed pictures, which reveals that HIC related inserted photographs occupy the dominant share of all typed of HIC related inserted pictures.

Comparatively, the China H Banking/Financial Services produce the highest volume of human inserted photographs (average 16 pages), followed by Retail (15), IT/Telecom (4), Logistics (4) and Energy (4). Likewise, the China A Banking/Financial Services produces the highest volume of human inserted photographs (average 14 pages), followed by Energy (1), IT/Telecom (0.62), Retail (0.02) and Logistics (0). It is clear that there is a distinct gap in HIC related inserted photographs between the China H and China A firms. Moreover, only the China H

IT/Telecom produces 0.06 pages of non-photographs related to human capital and Retail 0.05. Also, the China H Retail produces average 4 pages of mixed pictures and IT/Telecom 3. The China A firms produce neither HIC related non-photographs nor mixed pictures.

Graph 47: The proportions among the three types of HIC related inserted pictures for the three groups by industry by units of space



Briefly, the data collected on inserted pictures reveal that the main features of inserted pictures communication are as follows. 1) Both the occurrence and space counts of

the pure pictures of all groups appear to be higher than those of inserted pictures. This is because the HIC photographs related to top management take up the lion's share of overall pictures, which mainly consist of pure photographs. 2) The inserted pictures with outsider captions are evidently more numerous than those with insider captions; this is probably due to the pursuit of an integrated visual sense and to an awareness of the importance of explanation- and quotation-oriented captions within the independent space outside the pictures, where more flexibility can be achieved and a clearer literal expression can be delivered. 3) Both in unit and space counting, the overall volume of inserted pictures with captions is absolutely higher than that of those without captions, which again indicates the inclination of all investigated groups' firms to widely use captions and is in accordance with the theoretical framework. 4) Inserted photographs show their absolute preponderance over the three types of pictures.

5.4 Graphs and charts

5.4.1 Overall visual data findings [Tables 6.1 & 6.2]

Table 6.1: Analysis of overall graphs and charts data by country and industry sector measured by units of occurrence										
	Graphs/charts							Total	Total pages	Average Unit per page
	Pie	Bar	Line	Circle	Map	Diagram	Other			
Banking/Financial Services										
UK	8	233	19	63	16	28	22	371	2483	0.14
China H	14	75	23	9	10	25	7	169	2605	0.06
China A	7	50	17	9	8	20	7	118	2836	0.04
Logistics										
UK	18	106	18	38	13	12	15	220	1517	0.14
China H	2	28	3	15	5	6	3	62	1779	0.03
China A	0	1	1	1	0	11	0	14	1922	0.01
Energy										
UK	9	110	12	55	7	11	15	219	1407	0.15
China H	2	17	0	13	7	14	2	55	1949	0.02
China A	2	0	0	0	0	11	2	15	1956	0.01
IT/Telecom										
UK	14	64	22	8	7	5	5	125	1368	0.09
China H	1	24	1	0	0	11	1	15	1627	0.01
China A	0	3	0	0	57	13	0	70	1631	0.04
Retail										
UK	11	95	19	7	7	9	25	173	1079	0.16
China H	0	23	0	7	3	3	8	44	1455	0.03
China A	0	5	0	0	0	0	8	13	1490	0.01

Table 6.2 – Analysis of overall graphs and charts data by country and industry sector measured by units of space										
	Graphs/charts							Total	Total pages	Average space per page
	Pie	Bar	Line	Circle	Map	Diagram	Other			
Banking/Financial Services										
UK	4	19	2	6	2	7	2	44	2483	0.02
China H	1	9	3	0.65	6	13	0.66	33	2605	0.01
China A	0.64	4	1	0.65	5	10	0.65	23	2836	0.01
Logistics										
UK	2	10	2	2	3	2	1	24	1517	0.02
China H	0.11	4	0.6	2	3	2	0.42	13	1779	0.01
China A	0	0.05	0.33	0.06	0	2	0	3	1922	0.002
Energy										
UK	0.81	12	1	4	3	5	4	30	1407	0.02
China H	0.34	2	0	3	5	3	2	15	1949	0.01
China A	0.34	0	0	0	0	2	0.22	3	1956	0.001
IT/Telecom										
UK	1	6	4	0.71	2	1	1	15	1368	0.01
China H	0.11	4	0.17	0	0	2	2	9	1627	0.01
China A	0	0.17	0	0	0	3	0.1	3	1631	0.001
Retail										
UK	0.88	7	3	0.65	2	3	2	19	1079	0.02
China H	0	4	0	0.66	3	3	3	13	1455	0.01
China A	0	1	0	0	0	2	0	3	1490	0.002

The data collected in Table 6 series show the use of specific graphs/charts in their communication by country and industry. The main findings are summarized as follows. 1) The UK firms produce many more graphs/charts (a total of 1,108 units and average 132 pages) in their annual reports than do the China H (345 units and 83 pages) and the China A firms (230 units and 35 pages); this indicates that the UK firms are more graph/chart-oriented than the Chinese ones. 2) Bar charts, regardless of country and sector, show the biggest overall amount of 834 occurrences in terms of

unit counting, followed by circle (225), diagram (179), line (135), map (132), other (120) and pies (88), which is in accordance with the findings of Beattie and Jones (1992), who, however, only mainly investigated the bar/column, line, pie and other graphs/charts. Conversely, this research provides a more comprehensive survey of graphs/charts, and further contributes the meaningful findings that also circle, diagram, line and map graphs/charts are significantly popular and utilised by all investigated groups. 3) Bar graphs/charts occupy the largest area (82 pages), followed by diagram (60), map (34), circle (20), other (19), line (17) and pie (11). The space ranking shows that bar graphs/charts are allocated the largest space; moreover, diagram and map graphs/charts are also allocated a large space by companies to communicate information related to intangibles, like governance, marketing base, etc.

5.4.2 Human intellectual capital visual data findings [Tables 6.3 & 6.4]

Table 6.3 – Analysis of HIC graphs and charts data by country and industry sector measured by units of occurrence										
	Graphs/charts							Total	Total pages	Average unit per page
	Pie	Bar	Line	Circle	Map	Diagram	Other			
Banking/Financial Services										
UK	2	31	7	24	1	10	2	77	2483	0.03
China H	13	8	0	2	0	17	1	41	2605	0.01
China A	5	2	0	2	0	9	1	19	2836	0.01
Logistics										
UK	4	16	1	11	0	1	2	35	1517	0.02
China H	0	2	0	1	0	2	2	7	1779	0.003
China A	0	1	0	1	0	2	0	4	1922	0.002
Energy										
UK	0	13	0	15	0	5	0	33	1407	0.02
China H	2	0	0	4	0	1	0	7	1949	0.003
China A	0	0	0	0	0	0	0	0	1956	0
IT/Telecom										
UK	4	7	4	3	0	1	2	21	1368	0.01
China H	1	0	0	0	0	0	0	1	1627	0.001
China A	0	0	0	0	0	1	1	2	1631	0.001
Retail										
UK	0	4	1	2	0	3	5	15	1079	0.01
China H	0	0	0	0	0	0	7	7	1455	0.004
China A	0	0	0	0	0	1	0	1	1490	0.001

Table 6.4 – Analysis of HIC graphs and charts data by country and industry sector measured in units of space

	Graphs/charts							Total	Total pages	Average space per page
	Pie	Bar	Line	Circle	Map	Diagram	Other			
Banking/Financial Services										
UK	0.14	3	0.63	1	0.42	4	0.11	9	2483	0.004
China H	0.94	1	0	0.1	0	10	0.5	13	2605	0.005
China A	0.5	0.5	0	0.14	0	8	0.5	10	2836	0.003
Logistics										
UK	0.23	1	0.19	0.48	0	0.21	0.3	2	1517	0.002
China H	0	0.26	0	0.06	0	2	0	2	1779	0.001
China A	0	0.05	0	0.06	0	0.8	0	1	1922	0.001
Energy										
UK	0	1	0	1.5	0	2	0	5	1407	0.004
China H	0.34	0	0	0.44	0	1	0	2	1949	0.001
China A	0	0	0	0	0	0	0	0	1956	0
IT/Telecom										
UK	0.17	0.71	0.59	0.2	0	0.38	0.22	2	1368	0.002
China H	0.11	0	0	0	0	0	0	0.11	1627	0.0001
China A	0	0	0	0	0	0.33	0.1	0.43	1631	0.0002
Retail										
UK	0	0.26	0.16	0.33	0	0.71	0.33	2	1079	0.002
China H	0	0	0	0	0	0	2	2	1455	0.001
China A	0	0	0	0	0	0.16	0	0.16	1490	0.0001

The same applies to the HIC related graph/chart disclosures by the three investigated firm groups. The UK firms produce the largest volume of average total units of graphs/charts relevant to HIC (181) and 20 pages of them; the China H firms hold the middle ground (63 units and 19 pages) and, China A firms rank last (26 units and 11 pages). There is a noteworthy distinction among these three groups in terms of HIC graph/chart presentation. The UK firms are still more graph/chart-aware for the communication of intangibles than are the Chinese firms.

The analysis by industry sectors shows that, regardless of country, Banking/Financial Services is again the most active in producing the highest volume of average units and pages of HIC related graphs/charts (154 and 33), followed by Logistics (46 and 6), Energy (40 and 7), IT/Telecom (24 and 3) and Retail (23 and 4). The ranking evidently shows that the Retail sector sample firms are much less active in the use of graphs/charts.

5.4.3 Detailed analysis of tables [Tables 6.1 to 6.4]

Detailed analysis of Table 6.1 – Overall visual data: analysis of graphs and charts by country and industry sector in terms of occurrences

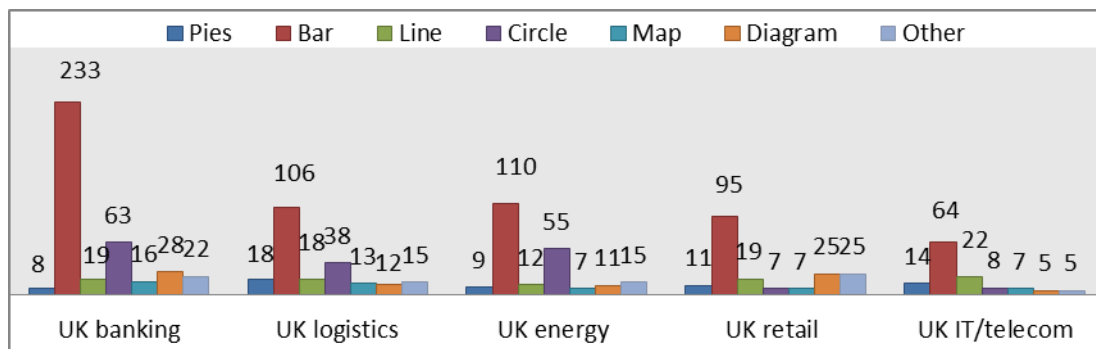
Table 6.1 shows that the Banking/Financial Services produce the highest volume of total graphs/charts among the UK sample sectors (371), followed by Logistics (220), Energy (219), Retail (173) and IT/Telecom (125). Compared to picture presentation, the ranking shows that graphs/charts are most commonly used by the Logistics and Energy sample firms of the UK group and least so by the Retail ones. Moreover, bar graphs/charts are the most widely used across all UK sectors. The UK Retail and IT/Telecom firms prefer to use line graphs/charts over others, whereas the UK Banking/Financial Services, Logistics and Energy ones prefer to use circle graphs/charts.

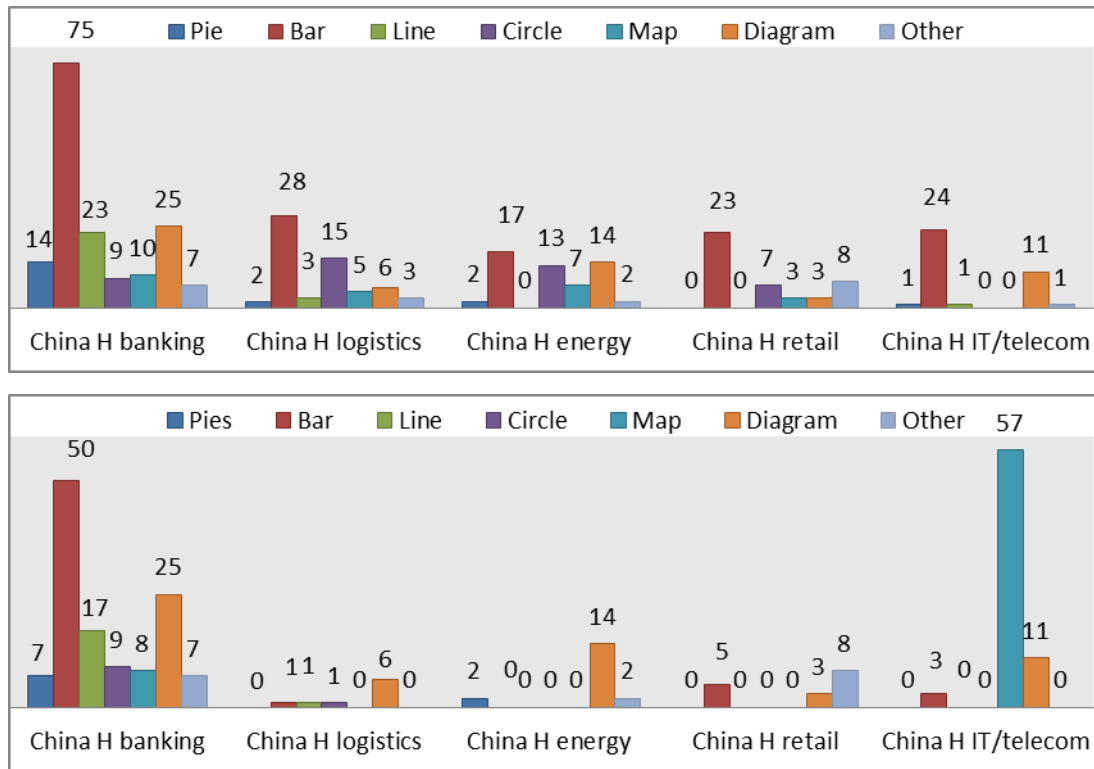
Similarly, among the China H sample sectors, Banking/Financial Services produce the

highest volume of graphs/charts (169), followed by Logistics (62), Energy (55), Retail (44) and IT/Telecom (15). This differs substantially from the picture rankings, in which Logistics and Energy perform the weakest; this indicates that, possibly due to their inclination towards numeric data deal persuasion, they prefer to use graphs/charts impression management, whereas other sectors prefer to use pictorial impression management. Furthermore, line graphs/charts are used more by the China H Banking/Financial Services whereas, relatively, circle ones are more commonly used by Logistics, Energy and Retail. Diagrams are employed more by the China H firms than by the UK ones.

Among the China A sample sectors, Banking/Financial Services also produce the highest volume of graphs/charts (118), followed by IT/Telecom (70), Energy (15), Logistics (14) and Retail (13). It is clear that both Banking/Financial Services and IT/Telecom make wide use of pictures and graphs/charts. Further, as is the case for the China H firms, the China A ones prefer the use of diagram graphs/charts over others in their annual reports.

Graph 48: The proportions of the seven types of graphs/charts among the three groups by industry sector in terms of units of occurrence





Detailed analysis of Table 6.2 – Overall visual data: analysis of graphs and charts by country and industry sector in terms of space

As shown in Table 6.2, the UK sectors’ ranking of overall graphs/charts in terms of space is similar to that in terms of occurrences, although there is a small difference in that Energy slightly outranks Logistics in space volume. A similar sector ranking is shown by the China H firms. This shows that Energy uses more space presentation than Logistics to address intangibles. An arresting point is that the specific graph ranking of UK firms is consistent with its graph ranking by occurrences. Differently, both Chinese groups produce a much larger space of diagram graphs/charts than they do bar ones, which indicates their propensity towards diagram graphs/charts; these are mainly used to communicate corporate governance structure, for which diagram graphs/charts are more effective than bar ones.

Detailed analysis of Table 6.3 – HIC visual data: analysis of graphs and charts by country and industry sector in terms of occurrences

Table 6.3 shows that the trends of the seven types of HIC related graph/chart communication in the annual reports of all groups are similar to those of the overall graph/chart communication; there are, however, a few differences. Circle and diagram graphs/charts are more widely used to communicate HIC information; bar ones are more preponderant across all sectors as they possess virtues such as a simpler visual sense, a clearer presentation and more appeal when used to communicate aspects of human capital information. Conversely, map and line graphs/charts are much less popular for human related graph communication as they are not effective in visually displaying human capital information.

There is a rather obvious gap between the UK and Chinese firms by sector. The UK Banking/Financial Services, Logistics and Energy produce a much higher volume of bar, line and circle graphs/charts than do the Chinese firms. However, the Chinese firms have the edge over the UK ones in diagram graphs/charts. Furthermore, the Chinese IT/Telecom and Retail sample sectors use very few graphs/charts for the disclosure of HIC. Thus, there is a distinct gap between the UK firms and their Chinese counterparts in terms of graph/chart communication, which indicates that the former also have a stronger graph awareness than the latter for conveying HIC information.

Detailed analysis of Table 6.4 – HIC visual data: analysis of graphs/charts by country and industry sector in terms of space

Table 6.4 discloses the important findings that: 1) Diagram graphs/charts occupy larger space than bar ones across all countries; 2) both the China H Banking/Financial Services and Retail allocate the larger total volume (13 and 2) of space to HIC related graphs/charts than the corresponding UK sectors; 3) furthermore, the gap between the UK and China A firms is narrower, although the overall volume of human related graphs/charts of the UK firms is still larger than that of the Chinese ones. It is clear that diagram graphs/charts are much more commonly employed by the Chinese firms to specifically present HIC such as corporate governance and management/board composition due to their greater ability to combine visual space sense and linguistic explanation compared to the other graph/chart types; 4) comparatively, map and line graphs/charts are used less as they require ample space for both visual rhetoric and linguistic interpretation; 5) Banking/Financial Services is the sector which makes the highest use of graphs/charts across all countries, which clearly confirms the strong inclination of Banking/Financial Services to the application of visual communication,

5.5 Analysis of graphs by job functions [Tables 6.5 & 6.6 & 6.7]

Table 6.5: Graphs/charts by HIC functions in terms of units of occurrence

Visual IC	Graph/Chart type							Total	Country
	Pie	Bar	Line	Circle	Diagram	Map	Others		
Management	6	15	0	29	19	1	8	78	UK
	2	1	0	1	20	0	0	24	China H
	0	3	0	1	13	0	0	17	China A
Customers	2	30	9	20	0	0	0	61	UK
	7	9	0	2	0	0	10	28	China H
	2	0	0	2	0	0	2	6	China A
Employees	2	26	4	6	1	0	3	42	UK
	7	0	0	4	0	0	0	11	China H
	3	0	0	0	0	0	0	3	China A
Totals:	10	71	13	55	20	1	11	181	UK
	16	10	0	7	20	0	10	63	China H
	5	3	0	3	13	0	2	26	China A

Table 6.6: Graphs/charts by HIC functions in terms of space

Visual IC	Graph/Chart type							Total	Country
	Pie	Bar	Line	Circle	Diagram	Map	Others		
Managers	0.34	1.33	0	2.40	7.28	0.42	0.54	12.31	UK
	0.10	1.05	0	0.18	13	0	0	14.33	China H

	0	0.55	0	0.06	9.29	0	0	9.9	China A
Customers	0.05	3.23	0.80	0.72	0	0	0	9.48	UK
	0.59	0.21	0	0	0	0	2.15	2.95	China H
	0.10	0	0	0.14	0	0	0.6	0.84	China A
Employees	0.15	1.41	0.77	0.39	0.02	0	0.42	3.12	UK
	0.7	0	0	0.42	0	0	0.35	1.47	China H
	0.40	0	0	0	0	0	0	0.40	China A
Totals:	0.54	5.97	1.57	3.51	7.3	0.42	0.96	20	UK
	1.39	1.26	0	0.6	13	0	2.5	19	China H
	0.5	0.55	0	0.2	9.29	0	0.6	11	China A

The data collected in Tables 6.5 and 6.6 show that graphs and charts, regardless of country, are most used to communicate information about management (119 occurrences and average 37 pages), followed by customers (95 and 13) and employees (56 and 5). The ranking of the usage of graphs/charts in these three HIC functions by country see the UK firms come top, followed by the China H ones and, lastly, by the China A firms. This further illustrates the predominant role played by management in the HIC chain and the visual communication strategy adopted by contemporary firms, which strongly emphasizes leadership capital.

Table 6.7 shows a summary of graph types (across all countries) used in HIC. It shows that, to communicate management information, firms prefer diagram (the most),

circle and bar graphs over others; conversely, bar (the most), circles and pie graphs are more widely used for customer information and bar (the most again), pie and circle graphs are still far more used than other graph types to convey employee information. These tendencies apply to both occurrences and space.

Table 6.7 – Analysis of graph/chart types by HIC functions

Visual HIC	Graph/Chart types								Total
		Pie	Bar	Line	Circle	Diagram	Map	Others	
Managers	Unit	8	19	0	31	52	1	8	119
Customers		11	39	9	24	0	0	12	95
Employees		12	26	4	10	1	0	3	56
Managers	Space	0.44	2.93	0	2.64	29.57	0.42	0.54	36.54
Customers		0.74	3.44	0.80	0.86	0	0	2.75	13.27
Employees		1.25	1.41	0.77	0.81	0.02	0	0.77	4.99

However, the analysis of graph types by country shows a difference between the three groups, as shown in Tables 6.5 and 6.6. Circle graphs are most widely used by UK firms to convey information related to top management, whereas diagram ones are the most used by both the China H and China A firms to the same end, mainly for aspects of board of directors or board of governance structure. The UK firms prefer to use bar (most), circle (second) and line graphs to present customer information; conversely and for the same purpose, bar (most), pie (second) and circle graphs are far more

commonly used by the China H firms, and only pie and circle ones by the China A firms. For employee information, bar (most), circle (second) and line graphs are far more widely used by UK firms; whereas only pie and circle graphs are used by the China H firms, and only pie ones by the China A firms. There is an evident gap between them.

The above findings with respect to graph types by HIC functions are another contribution made by this research that adds new insights and content to the work of Beattie and Jones (1992).

5.6 Conclusions and key findings

To sum up the section dealing with the study of pictures and graphs/charts, firstly, there are common findings for all groups: (1) photographs are dominant in visual communication, followed by non-photographs and, lastly, mixed pictures; (2) photographs with captions are found notably more often than those without both in occurrences and space, which is in line with Sontag's photography theory that argues the significance of photographs to the involved human race or things as it explicitly presents objectivity, documents evidence, and confers importance or value, and is in accordance with Davison's (2010) insight that "the business elite are both physical realities and social icons; objectively real and subjectively constructed". Photographs are the best visual intelligent material, as they more appropriately assist in displaying the objective reality since they provide both hard qualities – such as physical, tangible

and visible properties – and soft ones – such as a series of immaterial, intangible, and invisible attributes. On the other hand, they cater to the demand for the constitution of impression constructions with the purpose of enhancing the dissemination of intangibles, in particular, HIC. Furthermore, the widespread usage of photographs in the annual reports of all surveyed firms' is also in line with the previous work (Bernardi, Bean and Weippert 2005; Guthey and Jackson 2005; Steenkamp, N.2007; Steenkamp, Hooks and Steward 2010).

(3) Top management are the most conspicuous in the whole visual communication, particularly in photographic presentation, since business leadership is key to evaluate the future potential, vigour, and perspective of firms, thus assisting in the establishment of the firms' capital of trust and confidence towards wide spectrums of stakeholders. This is also in line with previous academic work which examined the crucial contribution of the human factor as a major driving force in the performance of firms (Skaggs and Youndt, 2004; Abeysekera and Guthrie 2004; Gong, Shenkar, Luo and Nyaw, 2005; Yang and Lin, 2009; Young, Su, Fang S.C. and Fang S. R's 2009). Thus it can be understood why top management is the human capital most frequently and widely depicted in the photographs in the annual reports of both UK and Chinese firms.

4) Captions are widely used to enhance photographic presentation as they compellingly assist in unscrambling and interpreting photographs; thus, pictures with

captions are far more used than those without in the annual reports of all investigated groups', which is consistent with Barthes's (1982) theoretical insight.

5) Banking/Financial Services and Retail dominate visual communication across all sectors and countries. This can be attributed to the following factors: (i) the Banking/Financial Services sector takes centre stage in today's prevailing global financial market and is also more heavily supported than other sectors by governmental policies due to its paramount role in the national economy; (ii) the Banking/Financial Services sector is the kernel of modern national economy (Liu, 2011); (iii) Retail is the most important last stage in modern commercial circulation, where goods and services are eventually delivered to a vast array of consumers; thus, effective and explicit visual communication is certainly widely adopted in this sector's annual reports for such varied purposes as sales promotion, brand and value construction and intangibles dissemination.

Finally, there is also an apparent gap in visual representation between the annual reports of the China H and China A firms. Due to Hong Kong's special transitional position between the West and China, larger amounts of pictures and graphs/charts are included in the annual reports of the China H firms than are in those of the China A ones.

The key findings are summarized in Appendix 8.

Chapter 6: Portrait analysis

6.1 Introduction

This chapter is about photographic portraits as visual information in relation to HIC. Portraits can be examined by means of four theoretical codes: physical, dress, interpersonal and spatial. The physical code includes gender and age. The dress code encompasses formal dress, casual dress and uniform. The interpersonal code consists of smiles, hand gestures, eye contact, individuals and groups. The spatial code concerns specific elements such as office settings, workplaces (non-office), special occasions, work related devices, table/chair/sofa settings, processed backgrounds and plain settings. This chapter aims to explore the distribution of the collected portraits data within the different country groups and industry sectors, and to interpret in further depth how these codes are used to express and link to specific key HIC elements and what their implications are for the surveyed countries and industries. The analysis focuses on the three key HIC groups (managers, employees and customers). It is framed and achieved through a three-step technical approach. Namely, the whole portrait data are broken down into three parts, the first of which reports the analysis of portrait data by specific HIC functions, achieved through the detailed coding, analysis, interpretation and essential comparison of four specific portrait codes between different groups, industry sectors and HIC elements. The second part of the analysis concerns the analysis of portrait data by country, regardless of industry sector. This part aims to handle the relevant analysis and comparison not

only among the three country groups, regardless of industry sector, but also within specific portrait codes only relating to country factors, and the final one is concerned with the five industry sectors, regardless of country factors. Finally, a brief conclusion is given to highlight the key points.

6.2 Analysis of pictures by HIC job function

6.2.1 Analysis of pictures by function

This section aims to deepen the investigation focusing on HIC related pictures by specific key HIC elements, i.e. managers, customers and employees. The data on human capital collected in Tables 7.1 and 7.2 (see Appendix 5) highlight the main findings as follows. 1) Managers, regardless of country and sector, make up a total of 1,271 occurrences and 129.56 pages of space, absolutely dominating both the occurrences and space rankings of the overall human related pictures, followed by employees (502 and 95.72), customers (478 and 125.54), others (199 and 49.67) and, lastly, mixed (105 and 20.33). Managers, including directors, executives, CEOs, corporate governance committee members, etc., are conventionally inadequately portrayed within the traditional accounting framework. The distinct gap between managers and other human capital elements shown by the above figures highlights that the former are offered a great chance to be presented through abundant pictures to a wide range of users seeking more non-financial information. This is because business leadership is a key parameter to assess business potential, and top management portraits most effectively constitute a significant asset for the visual

construction of corporate identity, image and authenticity through impression management. The result is in accordance with the research conducted by Guthey and Jackson (2005), who studied CEO portraits, and Davison (2009), who discussed the visual portraits of the business elite; furthermore, distinctively, this research is the first to cover both western and eastern firms in the interdisciplinary area associating visuals with accounting in academia.

2) Managers, customers and employees are presented and highlighted by an absolutely large volume of picture usage. Furthermore, by units of occurrence, firms tend to present more employees than customers; conversely, customers outrank employees in terms of space presentation. In addition, there are quite a few photographic portraits focusing upon other human information, such as passers-by, with definite volumes of both units and space. This might indicate the firms' intentions to increase their links to other human information outside the three corporate key HIC groups, which concerns their exterior social relationships reflecting the extension of their power in terms of influence, brand value, organizational culture, way of thinking, new communication techniques and approaches, etc.

3) HIC related photographs (2,494 units and 407.86 pages) are widely used to represent HIC and show its virtues (97.57% of units and 96.93% of space of the overall pictures presentation) over the other types of pictures (62 units and 12.9 pages); this

highlights the importance and dominance of photographs among pictorial communication in corporate annual reports, and greatly supports and proves Sontag's theoretical insight, by which the photograph is viewed as a reflection of the real, and argues that to photograph is to confer importance; furthermore, photographs are valued since they give information and furnish evidence. Thus, photographs are widely used to project the top management capital across all countries and sectors. Also, this result is in line with the previous work by Campbell, Mcphail and Slack (2009), Preston and Young (2000) and Bernardi, Bean and Weippert (2005), who noted the dramatic increase of human faces and pictures and the high percentage of pictures of boards in corporate annual reports.

Moreover, the managerial element is the subject of the biggest number of photographs (1,265 units and 125.63 pages) both in terms of occurrences and space across all human capital elements, followed by employees (500 and 95.36), customers (440 and 118.89), others (186 and 47.76), and mixed (103 and 20.22). As revealed in the above ranking, the colossal gap between the managers and the other human capital elements greatly exposes the deliberate corporate predilection to employ substantial numbers of photographs to publicise the top management of firms.

4) The research also uncovers that, across all sectors, the UK firms' managers are more commonly represented by occurrences than are employees and customers; conversely, customers or employees are allocated more space This reveals that the UK

firms prefer to address the top management through units of occurrence, and to highlight customers by space. On the other hand, the Chinese firms do not present such an inconsistency between occurrences and space presentation, with managers basically dominating both counts with the exception of IT/Telecom and Retail, where the volume of customer occurrences produced by the Chinese firms is lower than that of managers, with the opposite situation existing in terms of volume of space.

6.2.2 Detailed analysis of pure pictures by function

The data pertaining to HIC related pure pictures in Tables 7.3 and 7.4 (see Appendix 5) shows the distribution of pure pictures by specific HIC items. The findings show that:

- 1) regardless of country and sector, in general, the manager category accounts for 1,154 units and 99.31 pages of space in total, which are the highest volumes of all, followed by customers (334 and 87.45), employees (306 and 56.13), others (92 and 27.92) and mixed (30 and 6.98). Likewise, the manager category shows a preponderance in pure pictures in both occurrences and space over the other human capital categories, which clearly indicates the crucial position occupied by business leadership in the whole HIC system and the pivotal power of the business elite that broadly impacts the users' assessments relating to corporate vitality and potential. Customers and employees are also represented by substantial numbers of pure pictures; these three categories occupy 93.63% of overall occurrences and 87.44% of total space, which clearly shows that top management, customers and employees are at very kernel of HIC. This is also in line with the previous work by Lev and Schwartz

(1971), Lev (2004), Skaggs and Youndt (2004), Gong, Shenkar, Luo and Nyaw (2005), Yang and Lin (2009), Davison (2009) and Gates and Langevin (2010).

2) In total, the UK firms' manager category accounts for 573 units (49.65%) and 42.89 pages (43.19%), followed by customers with 238 units (71.25%) and 51.24 pages (58.59%), employees 219 units (71.57%) and 38.52 pages (69.16%), others 53 units (57.61%) and 12.86 pages (46.06%) and mixed 27 units (90%) and 6.51 pages (93.27%). Comparatively, the China H firms' manager category is portrayed in 416 units (36.04%) and 40.36 pages (40.64%), also the highest count, followed by employees with 74 units (24.18%) and 16.14 pages (28.75%), customers 64 units (19.16%) and 29.44 pages (33.66%), others 27 units (29.35%) and 9.51 pages (34.06%) and mixed 3 units (10%) and 0.47 pages (6.73%). Finally, the China A firms' managers category totals 165 units (14.30%) and 6.77 pages (16.17%), customers 32 units (9.58%) and 6.77 pages (7.74%), employees 13 units (4.25%) and 1.17 pages (2.08%), others 12 units (13.04%) and 5.55 pages (19.88%), while mixed pure pictures account for none.

As shown in the above ranking, both in terms of units of occurrence and space by country and HIC, the UK firms' human intellectual capital elements respectively account for the highest volume of all groups, the China H firms apparently coming second and the China A firms producing the lowest volume. Moreover, the UK firms allocate more space to customers than they do to managers. The former is associated

with service, while the latter is related to business leadership, which means that the UK firms prefer to use space to highlight service and units to present business management. This also uncovers the fact that HIC is far more emphasized by the UK firms, where the rising research on intellectual capital and its reporting, a burgeoning topic with regard to the value creation and sustainability of today's firms, was originally conducted and applied to the firms' business activities, obviously much earlier than is the case of the Chinese firms.

3) All groups prefer to use more pure pictures for 'others' associated to exterior human information than they do for 'mixed' human capital, which indicates a rising awareness in both the UK and Chinese firms for the development of external relationships through a positive engagement and interaction with society, which assists in propagating corporate intangibles such as social values, reputation, and social responsibility.

4) The managers category accounts for 999 units and 84.41 pages of pure photographs with captions, far more than those without (only 154 and 13.85), followed by employees (195 and 37.86 versus 134 and 17.91), customers (191 and 39.17 versus 105 and 43.51), others (52 and 16.11 versus 36 and 10.98), and mixed (19 and 4.72 versus 9 and 2.15). Conversely, overall non-photographs and mixed pictures only account for 77 units of occurrence and 14.78 pages of space, mainly distributed in Logistics, Energy and Retail. There are none in the manager category.

Furthermore, as shown in Tables 7.3 and 7.4, there is also a large gap between the UK and Chinese firms in the pure pictures presentation of specific HIC functions. From the above summarized data and ranking, it is evident that both groups of firms prefer to use pure photographs with captions to communicate their HIC, among which managers related to top management are assigned the lion's share in volume. Employees and customers are also significantly addressed through numerous pure photographs. Pure photographs are more widely used in the UK firms' annual reports than they are in those of the Chinese firms, in particular for managers. The findings greatly affirm that i) pure photographs occupy the absolute dominant position in the overall pure picture communication and are mainly used to represent business leadership; ii) captions, being an important linguistic message, are widely applied in corporate pure photo presentation in order to steer users toward the intentionally designed pathway. This is in accordance with the theoretical framework and proves Barthes's insight on the relationship between linguistic and iconic messages and, in turn, Sontag's insight on photographs.

6.2.3 Detailed analysis of inserted pictures by function

The collected data on inserted pictures related to HIC in Tables 7.5 and 7.6 (Appendix 5) shows the distribution of inserted pictures within the five types of HIC both in units of occurrence and space. Employees hold the largest number of units in total (196), followed by customers (144), managers (117), others (107) and mixed (75). However,

customers occupy the highest volume of pages of space of all (38.19), followed by employees (37.59), managers (30.25), others (22.34) and mixed (11.63). The above rankings of overall inserted pictures highlights that inserted pictures are used more for employees and customers they are for managers. This is because the majority of human pure pictures (63.06% of units and 38.08% of space) are allotted to managers (overall 1,154 units and 99.31 pages) regardless of country and sector; moreover, inserted pictures associated with HIC (overall 726 units and 160.01 pages) own a much smaller share (28.40% of units and 38.03% of space) of the overall HIC pictures (2,556 units and 420.76 pages). On the contrary, overall human pure pictures (1,830 units and 260.75 pages) across all countries and sectors occupy the majority share (71.60% of units and 61.97% space) of total human pictures. Thus, there is a wide gap between human pure and human inserted pictures.

Secondly, overall, 617 units and 131.66 pages of inserted photographs are produced by all groups of firms; among these, employees have the largest share with 196 units and 37.55 pages, followed by customers (136 and 36.21), managers (112 and 26.6), others (98 and 18.67) and mixed (75 and 12.63). The ranking uncovers a trend of firms preferring to employ substantial inserted photographs to address employees rather than the other HIC elements, through which they may convey ample relevant soft power information such as staff attitudes, commitment, knowledge, skills, technology, creation, learning, experience and abilities to external users to disseminate a positive image of the company, to influence and to obtain

acknowledgement through impression management steered by linguistic messages. In comparison, the total amount of non-inserted photographs and mixed pictures is 22 units and 8.34 pages of space, which is dramatically less than that of inserted photographs. This shows that photographs, rather than non-photographs and mixed pictures, still dominate in the case of inserted pictures across all countries and sectors; not only that, photographs are more addressed which indicates accordance with the previous work by Davison and Skerratt (2007) and, in turn, proves Sontag's insight on photographs.

Thirdly, there are distinct differences between the three investigated groups in the distribution of inserted pictures among the key specific human capital elements regardless of industry sector. The UK firms' employees hold the highest volume, with 129 units and 27.37 pages of space, followed by customers (89 and 24.23), others (44 and 11.03), managers (29 and 5.54) and mixed (25 and 4.29), which demonstrates that employees are much more addressed by means of inserted photographs in the UK firms' annual reports than are other elements; likewise, customers are also more disseminated through them. Thus, compared to the other types, managers are relatively less addressed through inserted photographs since they are mainly represented through pure photographs, which dominate the whole picture presentation.

This notwithstanding and unlike the UK firms, the, China H ones use a large number

of inserted photographs to depict managers, occupying 66 units and 14.1 pages of space, thus ranking the highest, followed by customers (43 and 8.73), employees (40 and 6.26), mixed (44 and 6.77) and others (33 and 5.18). Similarly, the China A firms also use adequate numbers of inserted photographs to portray managers, the highest volume of 18 units and 7.73 pages of space, followed by employees (17 and 3.96), others (15 and 2.46), mixed (6 and 1.57), and customers (4 and 0.42).

The above ranking reveals that, i) comparatively, there is a distinct gap in inserted pictures between the UK and Chinese firms in terms of key HIC items, namely, the UK is ranked the highest, followed by the China H firms and, lastly, by the China A ones; ii) the UK firms tend to use more inserted pictures for employees and customers than they do for managers, whereas the Chinese firms use them mainly for managers; iii) further, the China H firms use them to emphasize customers and employees, whereas the China A firms use them for employees and others, leaving the customers at the lowest rank; iv) all firms use many more inserted pictures with outside captions than those with inside ones to transmit HIC, which suggests that the division of caption and pictures probably helps to achieve a more effective and purposeful communication of intangibles such as HIC; furthermore, the more important the element of human capital the firms intend to highlight, the more they are inclined to use inserted pictures with outside captions for it.

6.3 Analysis of portraits by country and code (physical, dress, interpersonal and spatial) [Table 8.1]

Table 8.1: Analysis of overall portraits by country and by code (physical, dress, interpersonal, spatial)

Portrait Code	Subcategory	UK firms		China H firms		China A firms	
		No.	%	N0.	%	No.	%
Physical	Gender:						
	Male	676	57	465	70	180	76
	Female	290	24	102	15	30	13
	Mixed	204	19	102	15	28	11
	Age:						
	Young (< 35)	249	21	123	18	32	14
	Middle (35-50)	328	28	189	27	135	57
	Old (50+)	465	40	290	42	61	26
	Mixed	100	9	76	11	9	3
Unidentifiable	21	2	13	2	0	0	
Dress	Formal dress	696	65	470	73	215	88
	Chinese dress	0	0	4	1	0	0
	Casual dress	182	17	82	12	20	8
	Uniforms	168	16	86	13	8	3
	Mixed	23	2	5	1	0	1
Interpersonal	Body						

	language:						
	smiles	714	22	428	22	173	25
	hand gestures	506	16	266	13	77	11
	eye contact	743	23	548	28	200	29
	Individual	790	25	533	27	186	27
	Group	379	6	164	10	47	8
Spatial	Office settings	120	9	19	3	1	1
	Workplaces (not office)	250	20	40	6	10	4
	Special occasions	283	23	128	21	44	18
	Work-related devices	25	2	5	1	3	1
	Tables/chairs/s ofas	82	6	30	5	13	5
	Processed backgrounds	20	1	108	18	4	1
	Plain backgrounds	438	39	280	47	172	70

Table 8.1 is a summary of the overall collected portrait data by country regardless of industry sector. The portraits data analysis is framed by four main parts: physical,

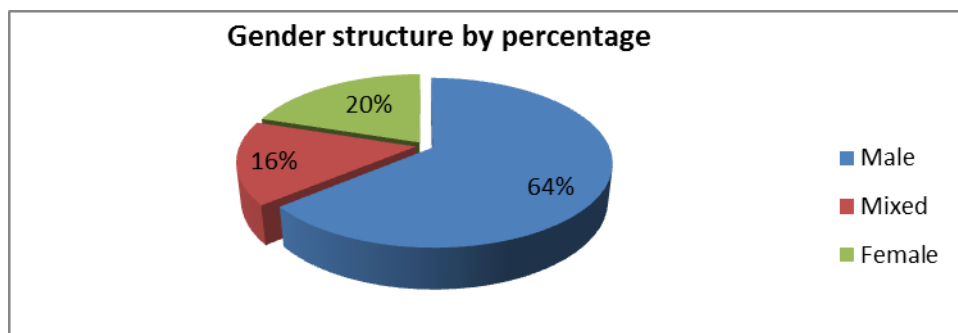
dress, interpersonal, and spatial that can be perceivable, physical, tangible and visible, through which the subtle intangible and invisible attributes can be detected, captured, extracted, and found.

Physical

Gender

Physical portraits mainly show gender and age. Gender can be male, female and mixed, combining male and female characteristics. As shown in the collected relevant data in Table 8.1, the male category conspicuously dominates in overall gender production across all countries with an absolute number of 1,321 and 64% of the whole, followed by female with 422 and 20%, and mixed with 334 and 16%, this is illustrated by percentage in Graph 49.

Graph 49: The proportions among the different gender categories by percentage of gender portrait production



It is noteworthy that a large amount of portraits are of males, which seems to be aimed at highlighting the importance of males in corporate performance; conversely,

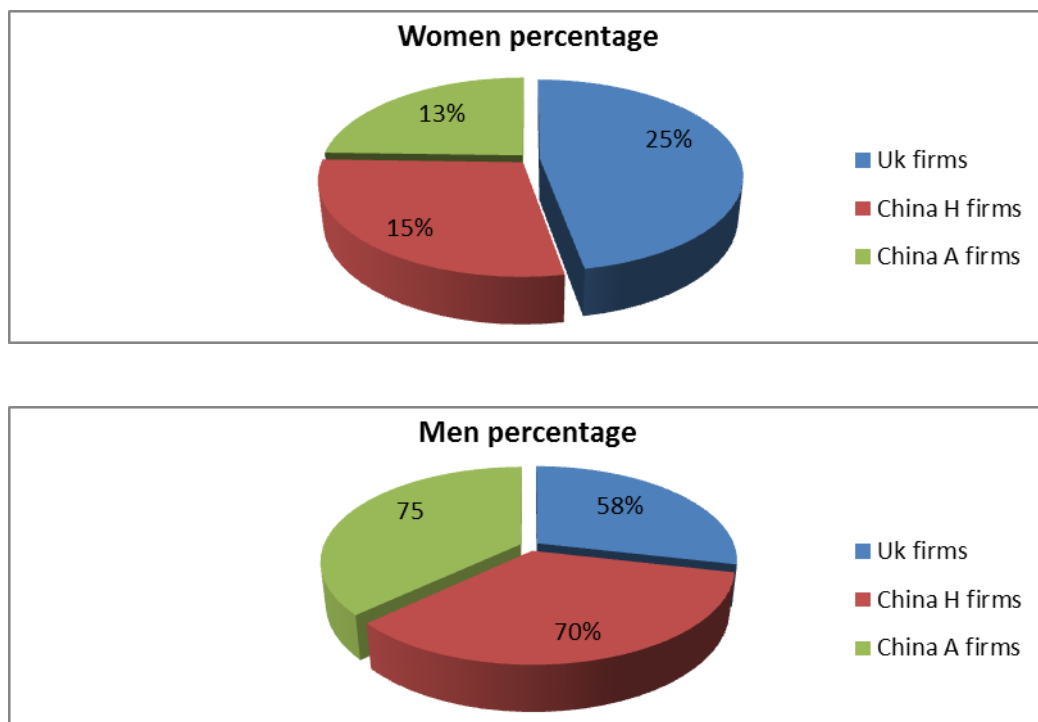
females are greatly under-represented, which indicates that women are presented as being less powerful and in subsidiary roles; the mixed group is gaining increasing attention in both in the UK and China firms. Therefore, there is a conspicuous asymmetry and inequality between male and female in terms of portrait presentation in both the annual reports of the UK and Chinese firms, which is in accordance with the previous work by Bujaki and McConomy (2010), Duff (2011), and Kuasirikun (2011) who found similar trends of shortage of female portraits in the corporate annual reports produced in other countries such as Canada and Thailand.

The differences between the UK and Chinese firms

In more detail, the UK firms produce a much larger absolute volume of the three types of gender portrait than do the Chinese ones; among the latter, the China H firms have the edge over the China A ones. However, as shown in Graph 50, men constitute an average 75% of the overall gender portraits in the annual reports of the China A firms, which is the highest percentage, followed by the China H firms, with an average 70% and the UK firms with 58%. By contrast, women represent an average 25% of the overall gender portraits in the annual reports of the UK firms, which is at the highest percentage, followed by China H firms, with an average 15%, and China A firms, with 13%. The above comparative study shows that: (i) the UK firms are more conscious of the usage of human portraits to effectively address the corporate HIC; (ii) the inequality and asymmetry between men and women in the portraits in the annual reports of the UK firms are notably less prevalent than they are in those of the

Chinese firms, which indicates that women are more to the forefront and more actively participate in the various corporate activities of the UK firms. The China H firms hold the middle ground and women are greatly under-represented in the China A firms.

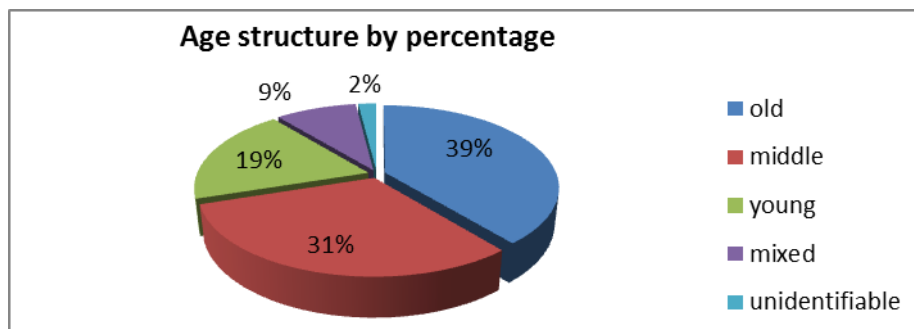
Graph 50: The gender portrait distribution gap among the three groups by percentage



Age

According to the note provided on age information in the firms' annual reports, age is structured here into five categories, namely, 'young' (under 35 years old), 'middle' (between 35 and 50), 'old' (above 50), 'mixed' and 'unidentifiable'. The old category altogether appears in 816 portraits, occupying an average 39% of the total age volume and ranking at the top; followed by middle (652 and 31%), young (404 and 19%), mixed (185 and 9%) and unidentifiable (34 and 2%). The percentage of each age category is illustrated in the following Graph 51.

Graph 51: The percentage distribution between different age categories regardless of country and sector



The above age percentage ranking indicates that the importance of human capital by age is ranked from old down to young. Therefore, people above 50 are given a dominant position in corporate portrait presentation, middle age people are also more greatly highlighted than others; therefore, these two groups constitute the mainstay of overall corporate portrait presentation in the annual reports. Comparatively, people under 35 take a subsidiary role in portraits, although they seem to be increasingly

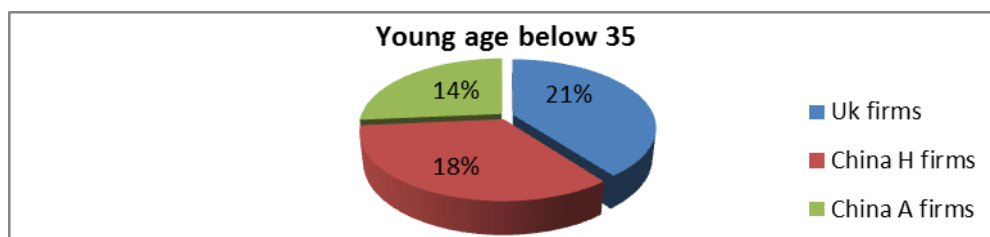
important to firms and hold a non-negligible proportion, being presented more in non-office roles such as services, sales, maintenance, operations, etc. and being shown to occupy less managerial positions.

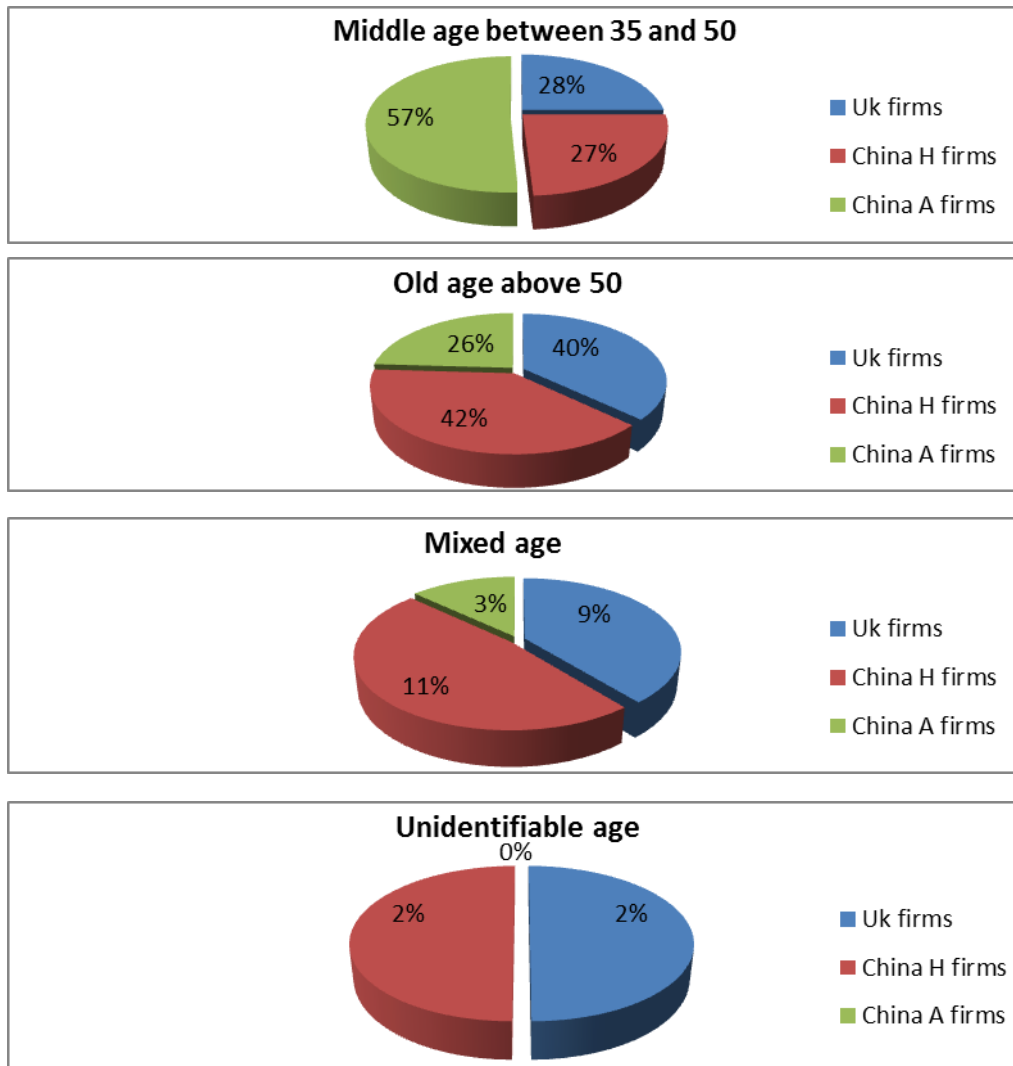
The collected age structure data associated with country level show that, in their annual reports, the UK firms produce a much larger absolute volume of portraits related to all age elements than do the Chinese firms, whereas the percentage study reveals more micro differences between them. As illustrated in the following Graph 52, the UK firms have the highest percentage (average 21%) of young than their Chinese counterparts, the China H firms coming second (average 18%), and the China A firms third (average 14%), which shows that the UK firms have a more pronounced tendency to display the relevant portrait information of the young, which can probably be attributed to their higher level of awareness of the valuable characteristics associated with young age, such as vigour, enthusiasm, initiative, innovation and creation, which are important intangible qualities that firms aspire to possess and demonstrate.

The middle age category of the China A firms occupies an average 57% of their age structure, clearly larger than the UK firms' average 28% and the China H firms' average 27%. Also, the China H firms presents the biggest proportion (42%) of old age group people, followed by the UK firms (40%) and the China A ones (26%). The comparative study uncovers the fact that middle age group people are preponderant in

the China A firms' annual reports; whereas the UK and China H firms prefer to highlight the old age group people more, which indicates that the middle age group people are gaining increasing importance in the China A firms' activities, as opposed to the UK and China H firms, where old age group people are more emphasized in recognition of their extensive experience. Furthermore, the China H firms highlight mixed age portraits (average 11%) more than the UK (average 9%) and China A firms (average 3%), which exposes the efforts of the China H firms to balance and harmonize the widespread asymmetry in portraits between the different age groups. Finally, the China A firms produce no unidentifiable age portraits; comparatively, the UK firms have the highest number of unidentifiable age portraits (21 units and average 2%) of all, followed by the China H firms (13 and 2%) and the China A ones (0). Although this group occupies a very tiny percentage of the total age distribution, this subtly highlights the negligence of a few UK and China H firms in terms of the photographs' quality or, probably, a special focus on a purposefully specific theme that neglects the portrait and leads to such ambiguity in the portraits.

Graph 52: the proportions among the different age elements by percentage and country





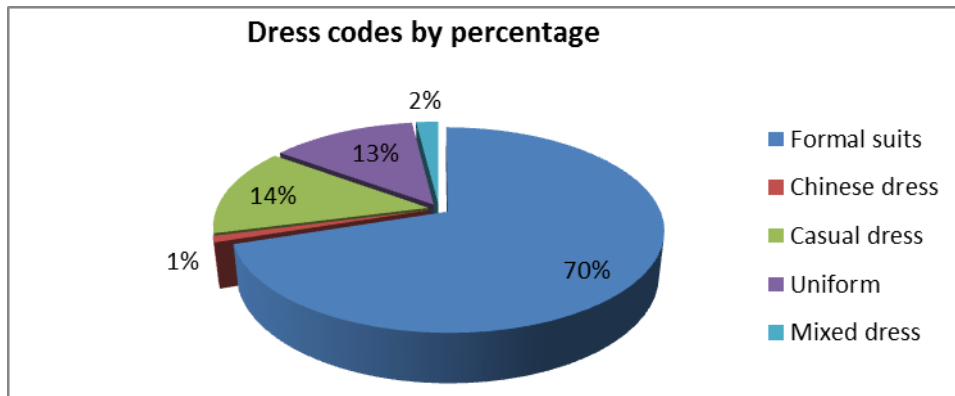
Dress

General trends

The portrait dress code encompasses five subcategories, namely: formal dress, Chinese dress, casual dress, uniform and mixed dress. The collected data on dress show the obvious portrait gap between these. Altogether 1,381 or 70% of portraits related to dress show formal dress, the top ranking of all dress elements, followed by casual dress (284 and 14%), uniform (262 and 13%), mixed dress (28 and 2%) and, lastly, Chinese dress (4 and 1%). The ranking of the five dress codes is illustrated in

Graph 53.

Graph 53: the ranking of the five dress codes by percentage regardless of sector and country



The ranking above together with abundant empirical observations made during this investigation uncovered the fact that in the case of formal occasions, such as superior parades for those people heavily involved in corporate portrait presentation, individual photographs and group portraits, besides portraits set to some processed background setting to convey relaxation and comfort (which also significantly contribute to instil confidence in people), are predominant in HIC portrait presentation in which formal dress are conventionally required to convey an impression of seriousness and importance. Also, such formal occasions provide a great chance to introduce and present substantial portraits related to those most important HIC elements such as CEOs, executives, board directors, supervisors, top managers, etc., who represent relevant business leadership intangibles that can effectively contribute to a firms' trust capital.

The findings relating to the rankings of casual dress and uniform that are lower than that of the formal dress show that the respective customers, employees and staff are also the subject of relevant portraits through which their importance is further stated and impressed since they also significantly contribute to the whole construction and reflection of corporate intangibles such as relational capital and, in part, internal staff structural capital.

The presence of a proportion of mixed dress in the overall corporate portrait representation shows the diversity, interaction and harmonization of the communication between the different elements of human capital.

Differences between the UK and the Chinese firms

The above general dress related findings about portraits also provide common ground for the UK and Chinese firms. Although the UK firms still produce a higher absolute volume of portraits associated with dress, the ranking by percentage of each type of dress reveals that the China A firms have a notably higher percentage of formal dress (average 88% of its overall dress volume) than the other groups (73% for the China H firms and 65% for the UK ones), which significantly points at the seriousness and circumspection which, on formal occasions, is reflected in the dress conventions of the China A businesspersons, as opposed to those of the UK firms. Conversely, the UK firms present a significantly higher percentage of casual dress (average 17%) and

uniform (average 16%) than the China H (average 12% and 13%) and China A ones (average 8% and 3%), which also indicates the greater trend towards relaxation and leisure found in the UK business cultural atmosphere compared to the Chinese one, whilst still emphasizing the importance of formal dress for business occasions. This gap also illustrates the wider power distance and tighter relationship which exist between people in Chinese culture. The findings examine the impact of a society's culture on the values of its members in the context of business portrait representation, which is in accordance with the insights of Hofstede (1984).

The fact that uniforms are emphasized more in the annual reports of the UK firms than they are in those of their Chinese counterparts may also imply that the former tend to be more aware of the aspects of uniformity, discipline and professionalism in employee workplace behaviour. Also, the mixed dress gap between the UK and Chinese firms may be indicative of the former's greater effort to encourage more diverse interactions between different groups of people associated with their activities.

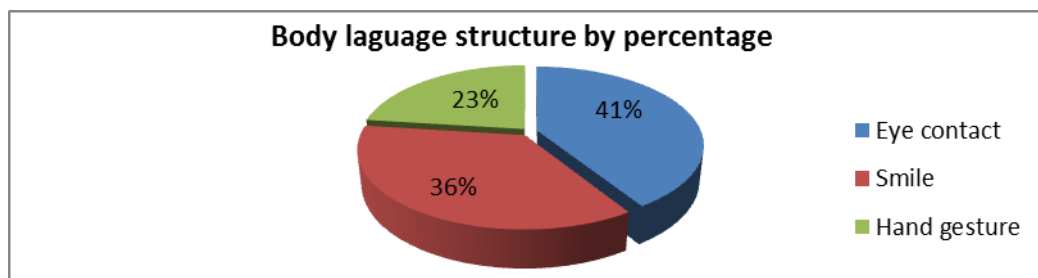
Interpersonal

General distribution of interpersonal code

Interpersonal code is subdivided into three subcategories, i.e. body language, individual, and group. In turn, body language encompasses smiling, hand gesturing, eye contact, individual and group. This section aims at conducting a study of the interpersonal code aspect of portrait communication and presentation. Firstly, this

trends analysis is carried out with regard to interpersonal code regardless of country. The collected data on body language shows that eye contact accounts for the highest number of occurrences (1,491) and the largest percentage (41%), followed by smiling (1,315 and 36%), and hand gesturing (1,177 and 23%), as is illustrated in Graph 54.

Graph 54: The ranking of three types of body language in portraits by percentage



The analysis shows that there is no notable gap between these three aspects of body language. Comparatively, eye contact is most frequently used to promote corporate portrait communication by both UK and Chinese firms as it is widely accepted that eye-contact is the best way to efficiently retain people's attention. The portraits in corporate annual reports are designed to establish communication with the various users of corporate documents; thus, through the eye contact approach, the attention of a wide range of readers can be promptly caught and deliberately directed to the selected key HIC elements that the firms intend to highlight.

Smiling is the second most widely used body language feature in HIC related corporate portrait presentation. People are greatly encouraged to show such an appealing and graceful attribute in their corporate annual report portrait presentation

due to the positive sentiments it conveys, being suggestive of amiability, strongly infective, likely to shorten the distance between the business elites and the readers and, ultimately, greatly effective in demonstrating and eliciting confidence. Hand gesturing, a powerful non-verbal expression, is a forceful complementary tool to subtly foster the extension of both the literal communication and oral presentation.

Briefly, the specific personal body language traits mentioned above may influence soft matters such as corporate reputation ratification, professionalism, the perception of a firms' brand vitality, etc. since the attention paid to them is largely impacted by emotionally evocative and contagious stimuli, in line with the insights of Ashforth & Humphrey (1995) and Davison (2009). This also contributes to the understanding of why these three features of body language are gaining a more balanced application.

The study also reveals that individual portraits are conspicuously dominant in the distribution of corporate portraits with an absolute overall volume of 1,509 occurrences, much bigger than that of group portraits (totally 590); this clearly indicates that individual portraits are more widely used than group ones in today's HIC corporate intellectual capital disclosure. It is argued here that, specific and refined information on human attributes can be more effectively divulged and more minutely disseminated through an individual gallery approach, than it would be by means of group portraits. The latter could easily cause the relevant human capital information to become over-concentrated, which may consequently result in the loss

of human information linked to diversity.

Differences between the UK and Chinese firms

Similarly to what was shown in the overall portrait data template, the UK firms again produce a much larger absolute volume of portrait information linked to interpersonal code than do the Chinese firms; this again demonstrates that the former are more aware of interpersonal representation than the latter. Among these, the China H firms always hold the middle ground, followed by the China A ones with the smallest volume. It is argued here that the volume of interpersonal-oriented elements included in portrait presentation is directly linked to the amount of intangible and invisible soft qualities and attributes that may be conveyed and transmitted to the readers. This indicates that the UK firms tend to deliver larger amounts of soft attributes to their readers by means of a more interpersonal rhetorical portrait technique than do their Chinese counterparts. The outcome of this tendency is the possibility of a more comprehensive transfer of relevant personality traits and the enhancement of personal credibility.

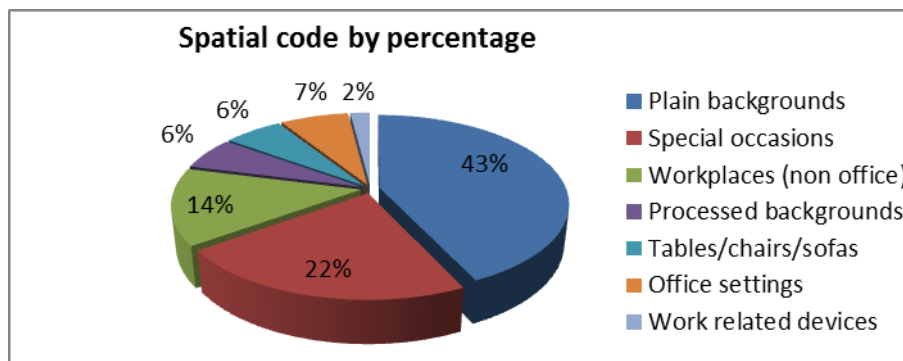
Spatial

General distribution analysis of spatial code regardless of country

The spatial code consists of seven subcategories, namely: office settings, workplaces (non-office), special occasions, work related devices, tables/chairs/sofas, processed backgrounds and plain backgrounds. The plain background category is found to have

the largest number of occurrences (890) occupying an average 43% of total spatial volume, followed by special occasions (455 and 22%), workplaces (non-office) (300 and 14%), office settings (140 and 7%), processed backgrounds (132 and 6%), tables/chairs/sofas (125 and 6%) and work related devices (33 and 2%). This is illustrated in Graph 55 by percentage.

Graph 55: The proportions of different spatial categories by percentage



The portraits set against a plain background are mainly used to present top management, such as the board of directors, the governance committee members, etc. these are the mainstay of the whole portrait representation, which is why the plain background spatial code is the most widely used overall spatial rhetoric.

Special occasions are linked to extended corporate external relationships, conveying relevant information about a wide range of active interactions between the firms and the outside world. It is argued here that firms tend to disclose a large number of portraits with the special occasions spatial rhetoric not only to promote their human

relational capital (customers, partner, stakeholder, etc.) but also to construct and disseminate a social impression capital that is probably associated with a set of social values such as social accountability, bilateral interactions and friendship, etc.

Workplaces (non-office) are mostly associated with employees, through whom production, programmes, schemes, decisions, innovation, quality control, and top management strategy are concretely implemented and specifically manipulated in the front line. Thus, by showing the more relevant workplace settings in which employees operate, the firms disclose more information about their various levels of workplace quality and conditions, which may assist in transparently conveying not only the necessary business humanities like care and respect on the part of management, but also important employee features like independency, professionalism, dedication and so on. The importance of employee portraits highlighted here is in line with the work of Steenkamp (2007) and Steenkamp, Hooks and Stewart (2010).

Office settings are another significant spatial code broadly used in connection to a variety of management issues that constitute important aspects of key business leadership. Occasionally, office settings seem to be specifically used to show the level of attention paid to junior management, which is another important source of talent capital in the specific transition through which the information originating from the top management is promptly transmitted and timely delivered to the lower level employees to tightly enforce and smoothly run the whole business system. Thus,

office settings indicate the shrewdness of today's sophisticated firms which never pass up a valuable chance to implement their business leadership, which is the core of a firm's overall intellectual capital.

This study finds that the spatial rhetoric of processed backgrounds is also widely applied to corporate portraits by both the UK and Chinese firms. Frequently, processed backgrounds are designed, styled and connected to a projection of the firms' brand images, logos, professional signs, visualized slogans, ambitions and missions with the aid of today's sophisticated IT technology.

This study also reveals the widespread presence of tables, chairs, and sofas in the portrait presentation of the investigated firms. They are likely to appear as part of the office settings or group poses of board of director portraits, in which the top business elites are frequently portrayed with sofas, chairs and tables to differentiate them from other, relatively less powerful managers. The findings uncovered the fact that sofas are mainly used in group portraits of directors, chairs in office setting portraits and tables in various conference portraits. At the same time, meticulous observation has highlighted the link between the quality of the decoration and materials of chairs or sofas and the level of the business leaders. This is in line with the illustrative visual portrait examples and insights provided by Davison (2009) who conducted an interpretation and analysis of the visual portraits of the business elites by constructing a portrait code framework.

The work related devices code is the least employed, although, to a certain degree, these devices still appear in the spatial aspect of portraits when they are necessary for specific purposes of visual presentation. They are intended to effectively aid the visual representation of the level of update and upgrade of a firm's devices and facilities, illustrating the latter's propensity to keep up with the cutting edge of the global economy and giving a positive indication of their social accountability in their care for the provision of the highest convenience to their present and potential customers, staff and stakeholders.

Differences between the UK and Chinese firms

In general, the UK firms are comprehensively dominant in absolute volume over the Chinese ones except in the case of processed backgrounds, in which the China H firms hold sway. Also, the percentage count reveals that the China A firms concentrate on plain backgrounds, with the highest percentage, and special occasions; the China H firms tend to prefer plain and processed backgrounds and special occasions. As argued in prior discussions, due to the processed plasticity of portrait backgrounds, the China H firms, heavily merging western traits and native attributes, positively take advantage manipulating portrait backgrounds to achieve a more effective conveyance of purpose. The study also shows that the UK firms tend to strike a better balance between the different spatial codes.

6.4 Analysis of portraits by country, job functions (management, customers and employees) and codes (physical, dress, interpersonal and spatial) [Tables 8.2 to 8.4, see Appendix 5]

This section focuses on the portraits of the specific main HIC elements, i.e. top managers, employees and customers, regardless of both country and industry sector.

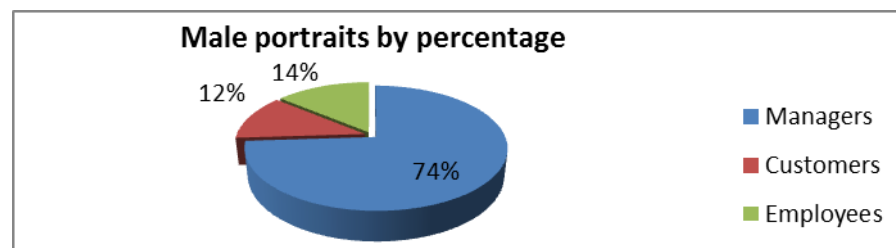
The aim is to explore the distribution trends and proportions of four identified key portraits codes applied to these human functions.

Physical

Gender

Across countries, the statistic data shows that the largest number of male portraits (982) pertains to top managers, occupying 74% of the overall human capital male portraits, followed by employees (184 and 14%) and customers (155 and 12%). This is illustrated in the following Graph 56 by percentage. Incidentally, a similar distribution pattern is observed in each individual group of firms.

Graph 56: The male portrait distribution among three types of HIC by percentage



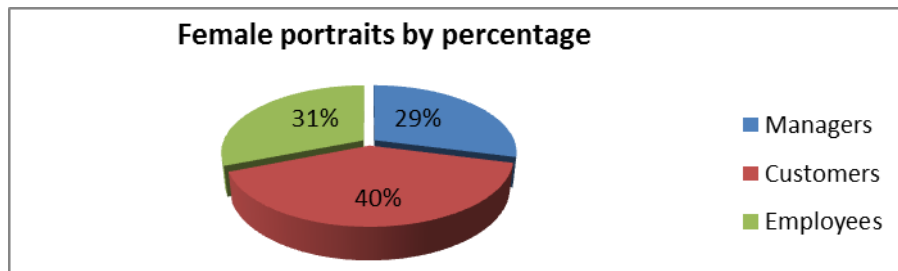
Conversely, as illustrated by percentage in the following Graph 57, the largest number

of female portraits involves customers (168 and 40%), which is a higher number than that of male in customers, followed by employees (129 and 31%) and managers (125 and 29%). In terms of individual groups, the UK and China H firms show similar trends, whereas the China A firms present female managers the most (12), then employees (10) and, lastly, customers (8).

The above findings prove that males tend to be presented in the most relevant HIC function more than females, namely: men are presented as being more powerful in the business context. Additionally and based this collected data, males seem to enjoy a substantially higher employment rate than females. The female portrait distribution clearly shows that women are most identified as customers and least as managers, where men dominate. Also, there is actually not much difference between the absolute numbers of occurrences of female portraits of the three main human capital elements. By contrast, the volume of male portraits of managers is substantially higher than those of the other functions. Therefore, this study finds that: (i) women constitute the most important gender-based consumer group, which would seem to be linked to the perception, common to many human cultures, of females conventionally taking on more domestic and family related duties, such as shopping; (ii) there is an enormous asymmetry and inequality between male and female portraits; (iii) the most powerful the function, the wider the gap that exists between them; consequently, (iv) male power and social status are aggrandized. This indicates that contemporary firms in both the UK and China continue to remain male-dominated. Furthermore, these

findings are in line with the relevant previous gender related work by Bujaki and McConomy (2010), Kuasirikun (2011) and Duff (2011).

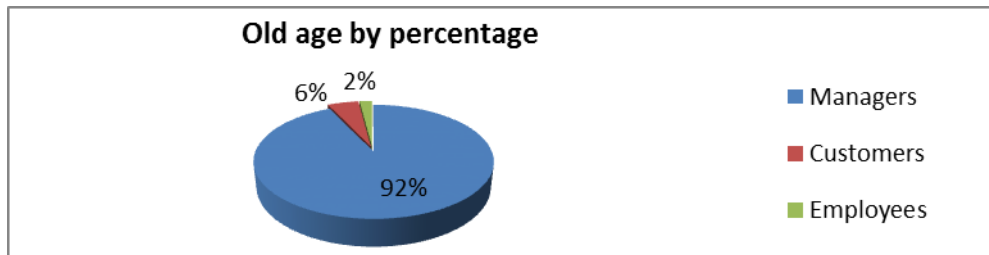
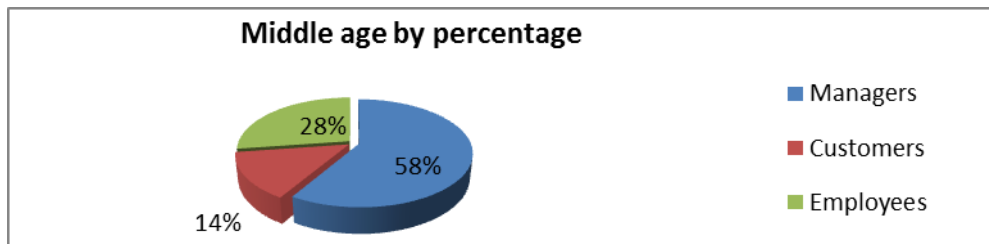
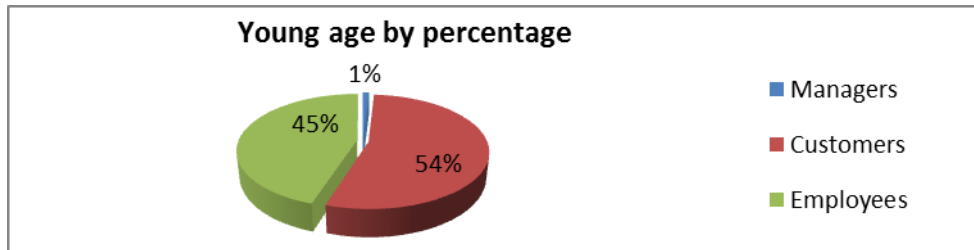
Graph 57: The female portrait distribution among three types of HIC by percentage



Age

Only 4 occurrences of the 'young' age group are found in the 'managers' element; ascending to 376 for the 'middle' age group and 752 for the 'old' age one. The 'mixed' age group accounts for 38 and the 'unidentifiable' one for 4. By contrast, the largest number of 'young' age occurrences (219) are presented as customers, followed by 'middle' (89), 'old' (46), 'mixed' (an exceptional 90) and 'unidentifiable' (9). A similar trend is observed in employees, 'young' accounts for 181, 'middle' for 187 and 'old' for 18. The details of the distribution of the three key age groups within the three main human capital elements can be seen in Graph 58.

Graph 58: The distribution of the three main HIC functions by key age groups



The above statistical data clearly reveal that, for age structured portraits, there is a general trend for the numbers of ‘old’ people to be marginal as both customers and employees; the opposite is observed in the manager category, where the portrait distribution with respect to age sees the ‘old’ group dominate. This portrait based finding forcefully shows that: (i) ‘middle’ and ‘old’ age group talents are the backbone of top management, probably because of the relevance and value of their accumulated experience for business prosperity and stability; (ii) the age factor may be an important element greatly influencing a business’s consumer base, people under 35 seeming to contribute the highest potential factor of social expenditure; (iii) ‘young’ and ‘middle’ age group people represent the mainstay of the corporate employee

workforce.

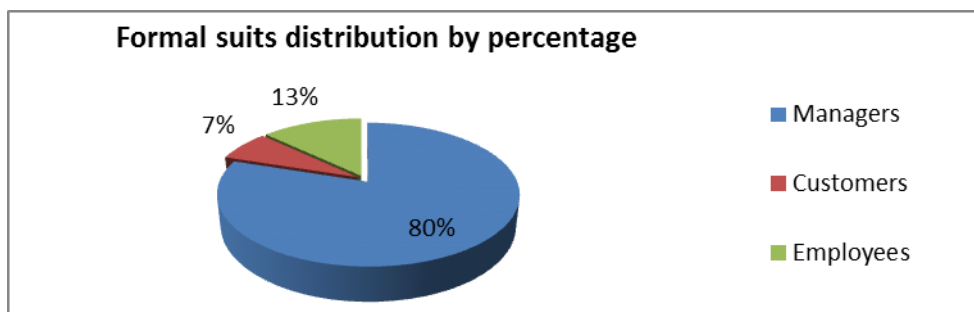
Dress

The dress code data show notable gaps and different tendencies in the use of specific dress types in different situations. Formal dress is acknowledged to be the official conventional wardrobe to be widely worn in various formal occasions – certainly for the public parade of top management portraits printed in corporate annual reports – thus, across all countries and industry sectors, the highest number of occurrences of formal dress are found in the managers category (1,103), accounting for an average 80% of the overall formal dress worn by all HIC elements, followed by employees (187 and 13%) and customers (91 and 7%). The above ranking also indicates the convention by which firms tend to establish their power distance by setting different types of dress for different occasions. Therefore, managers show their power and importance by wearing formal dress, differentiating their status from that of other personnel categories.

The study also finds that the customers of the China H firms depicted wearing formal dress are more numerous than those of the UK firms', which hints at the more pronounced inclination of Chinese customers to wear formal dress when shopping compared to that of their UK counterparts, who prefer to dress more casually. The study also reveals that the volume of depictions of formal dress worn by UK employees' (135) is substantially higher than that observed for the customer category

(40), which could be due to the substantial numbers of junior management personnel, categorized as employees, who are expected to wear formal dress in their office settings. Comparatively, the China A firms show a similar tendency (23 employees versus 4 customers), while the China H firms show a significantly lower consciousness and an opposite tendency (29 employees versus 47 customers). The general distribution of formal dress among the different human capital elements are illustrated in Graph 59.

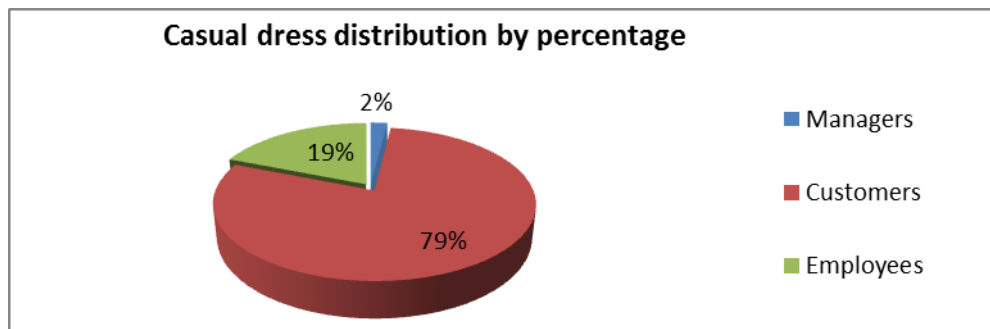
Graph 59: The distribution of formal dress portraits among the different HIC elements by percentage



In contrast, casual dress is generally expected to be worn for informal occasions such as shopping, leisure activities, etc., therefore, the highest volume and percentage of casual dress portraits is shown to portray customers (223 and 79%) across all groups of firms, followed by employees (55 and 19%) and managers (6 and 2%). Customers are primarily associated with shopping, which is why casual dress is widely portrayed as being worn by this HIC element as opposed to top management, in the portraits of which it is rarely used as they are usually conveyed as working in formal settings. The

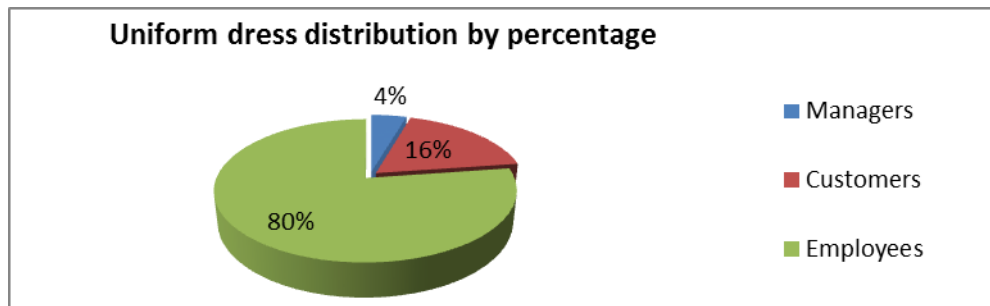
general distribution of the casual dress code among the different HIC elements by percentage is illustrated in Graph 60.

Graph 60: The distribution of casual dress portraits among different HIC elements by percentage



Uniforms are regarded to be distinguishing identifiers of profession and are employed in various careers worldwide. Firms often use them not only to differentiate their employees from those of other companies by displaying various symbols – i.e. company IDs, brand signs, logos, slogans, and so on – but also to differentiate between internal staff members with different jobs. Therefore, the largest number of instances and the biggest proportion of uniform being worn (209 and 80%) are found among employees, followed by customers (43 and 16%) and managers (10 and 4%), as is illustrated in Graph 61.

Graph 61: The proportions of uniform portraits among different HIC elements by percentage



Mixed dress is used to depict special occasions in which different types of dress are combined together. This is most likely done to depict interpersonal links and interactions among people from different career backgrounds – for instance, conferences, company social accountability activities and so on. The study finds that customers, with 22 units, account for the highest number of mixed dress occurrences of all.

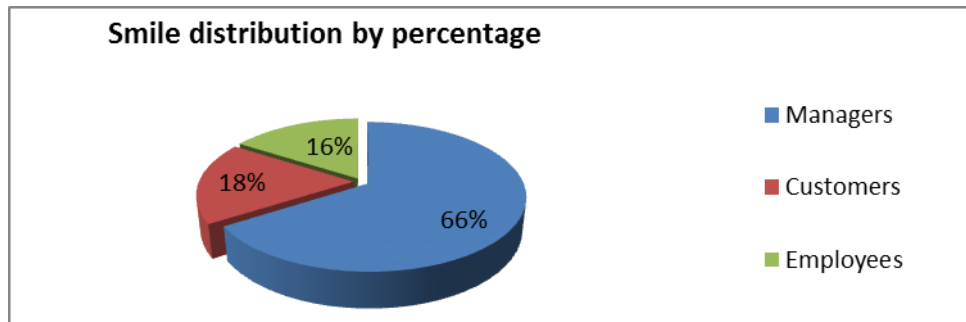
Chinese traditional dress only appears in the portraits presented by the Chinese firms. The China H firms display more Chinese dress occurrences than do the China A firms and mainly concentrate them in customer portraits. Chinese firms mainly display traditional dress in advertisement-oriented portraits, perhaps to convey their distinguishing cultural traits and values.

Interpersonal

Body language may be the most distinguishing factor in the visible display of people's personality traits; as such, it is regarded as a key emotional power (Davison, 2009) that can instantly grab the readers' attention and greatly impact their assessment of a firm's trust capital. This has the potential to enhance the probability of readers associating themselves with a company's products. This study finds the wide variety of body language expressions – such as eye contact, smiling and hand gestures – that is used by the three key HIC elements.

In more detail and as shown in the following Graph 62, managers are the elements mostly portrayed smiling (869 and 66%), followed by customers (228 and 18%) and employees (218 and 16%). The ranking exposes that: (i) managers are the most portrayed smiling than all human capital elements, maybe to convey confidence; (ii) customers are largely presented smiling, probably to show their satisfaction with the products and services supplied by the relevant firms; (iii) employees are also widely portrayed smiling, this may be to show their satisfaction with their work environment and conditions or with the internal welfare and treatment provided by their firms; (iv) the widespread depiction of smiles among all HIC elements could be intended to express the harmonious interaction among staff members and their confidence regarding the firms' future prospects.

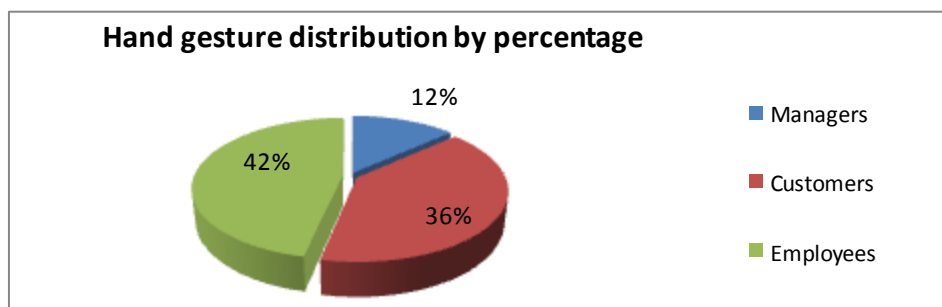
Graph 62: The distribution of smiling portraits among the different HIC elements by percentage



Hand gestures are argued here to be an important auxiliary body language trait that may not only aid to convey an attitude and deepen an understanding, but also assist in identifying relevant traits of the actions of the people portrayed, e.g. the customers' hand gestures may aid to express specific meanings, such as contentment, agreement, suggestion and selection; the employees' hand gestures actively shown in portraits may help to express some of their features and qualities, such as professionalism, concentration, responsibility, confidence, enthusiasm and so on. This may help to explain why the largest number of instances of hand gestures is employed in the portrayal of employees (355 and 42%) and customers (303 and 36%), followed by managers (191 and 12%). The ranking may reflect that employees and customers are more often depicted in occasions in which their operational micro-behaviours constitute significant complementary elements during the specific process of picture capture in a dynamic context. Comparatively, most top management photographs are passport style portraits that seem to emphasize depictions of human facial expressions,

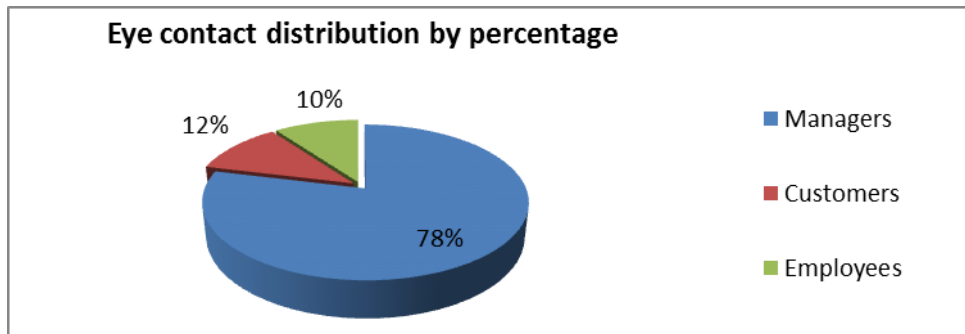
which is in accordance with top management portraits dominating in smile and eye contact presentation while showing the least hand gestures of all. The distribution of hand gestures is illustrated in Graph 63.

Graph 63: The distribution of hand gestures in portraits among the different HIC elements by percentage



Eye contact is probably the most effective and energetic of all body language expressions; this is not surprising, since eye contact helps to instantly get attention and, consequently, to possibly achieve the most powerful effect in terms of portrait communication, which should be one of the key visual elements pursued by firms. The top management is the core of the firms' business leadership; therefore, all investigated firms make wider use of their top managers' portraits than of those of others. The study finds that the largest number of eye contact portraits (1,161) feature managers, accounting for 78% of the whole, followed by customers (175 and 12%) and employees (155 and 10%). The eye contact distribution among different HIC elements is illustrated in Graph 64.

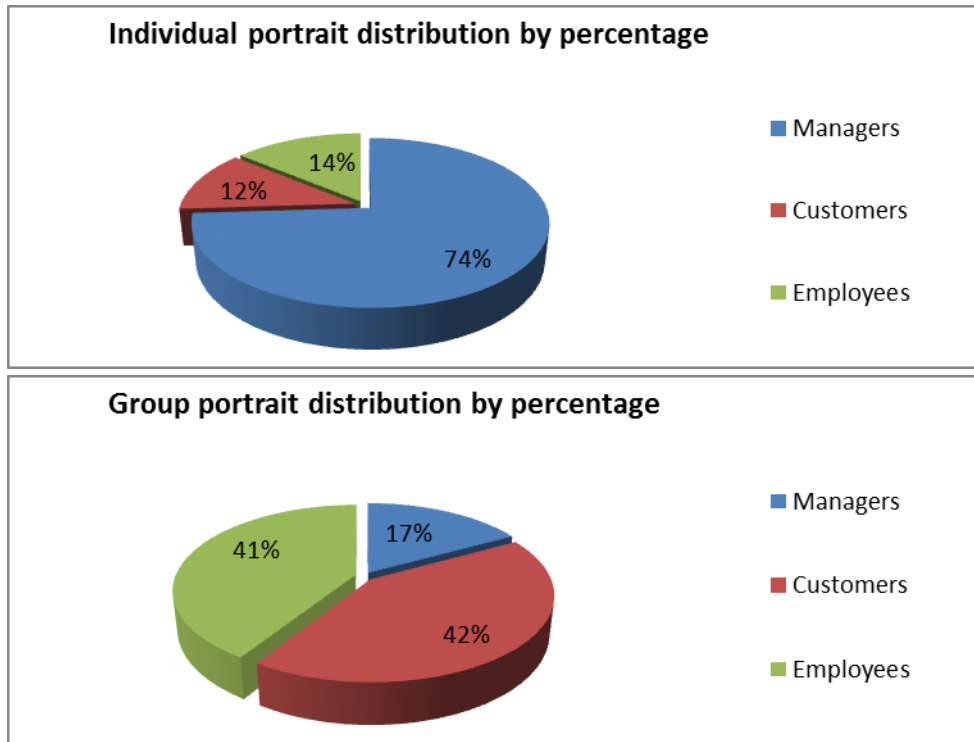
Graph 64: The distribution of eye contact portraits among different HIC elements by percentage



This study also reveals that 1,114 individual portraits (74% of the total) involve managers, usually depicted in photographs. Conversely, managers are shown in the smallest number of group portraits (99), accounting for only 12% of their total. The comparative results indicate that firms tend to use individual passport style portraits, rather than group one, to depict top management; it may be that this is seen as the most effective fashion in which specific individual business elite information can be more delivered to meet the demands of the various users of company annual reports.

Accordingly, small amounts of individual portraits depict employees (only 208, 14%) and customers (187, 12%), who are instead the subjects of a high volume of group portraits, with customers depicted in 249 (30%) and employees in 242 (29%). The above comparative study is illustrated in Graph 65.

Graph 65: The distribution of individual and group portraits among the main HIC elements by percentage



Spatial

The coded data for spatial settings exposes the deliberate selection of certain spatial arrangements to serve the rhetoric of specific HIC elements. Specifically, office settings are designed to characterise management, with the largest amount of portraits showing office settings (102, 73% of all) are found to depict managers, followed by employees (38 and 27%), and customers (none).

Non-office workplaces are intended to reflect employees; thus, the biggest number of portraits set to a workplace environment (263, 88% of the total) is employed to

portray the employees, followed by managers (28 and 9%) and customers (9 and 3%).

The not negligible presence of managers depicted in non-office workplaces is likely to indicate the involvement of managers in specific work scenarios and the proactive interaction between them and employees.

Special occasions mainly include visual settings featuring various circumstances such as shopping, conferences, journeys, ceremonies, volunteer activities, propagation activities, social community activities and so on. Thus, the collected data shows a wide and balanced usage of this kind of spatial setting to depict HIC. Customers are the subjects of the biggest number of portraits linked to special occasions (271 or 60% of the total), mainly associated with shopping, followed by employees (116 and 25%) main linked to volunteer and propagation activities, and managers (68 and 15%) mainly depicting conferences and ceremonial activities, promoting the notion of booming external relationships with suppliers, partners, etc.

This study finds that tables, chairs and sofas spatial settings are widely used to present HIC. Concretely, employees account for an average 44 units, 35% of all, followed by top management (43 and 34%) and customers (38 and 31%). The ranking shows that there is little variation among them; this spatial code is evenly distributed among these three HIC elements. However, subtle differences were exposed by careful empirical observation during the data identification and collection phase, showing that, conventionally, elegant sofas and refined chairs are more often used to portray top

management, whereas mundane tables are more commonly used to depict employees and sometimes customers.

This research also reveals that processed backgrounds are mainly used to portray managers (80 and 61%), followed by customers (44 and 33%) and employees (8 and 6%). Also, the China H firms are found to produce a higher number of instances of processed background spatial settings – 71 for managers, 32 for customers and 5 for employees – than both the UK firms – 7 for managers, 10 for customers and 3 for employees – and the China A ones – 2 for managers, 92 for customers and none employees. This clearly indicates that the China H firms have the highest inclination to use processed backgrounds to enrich the portrait presentation of their HIC.

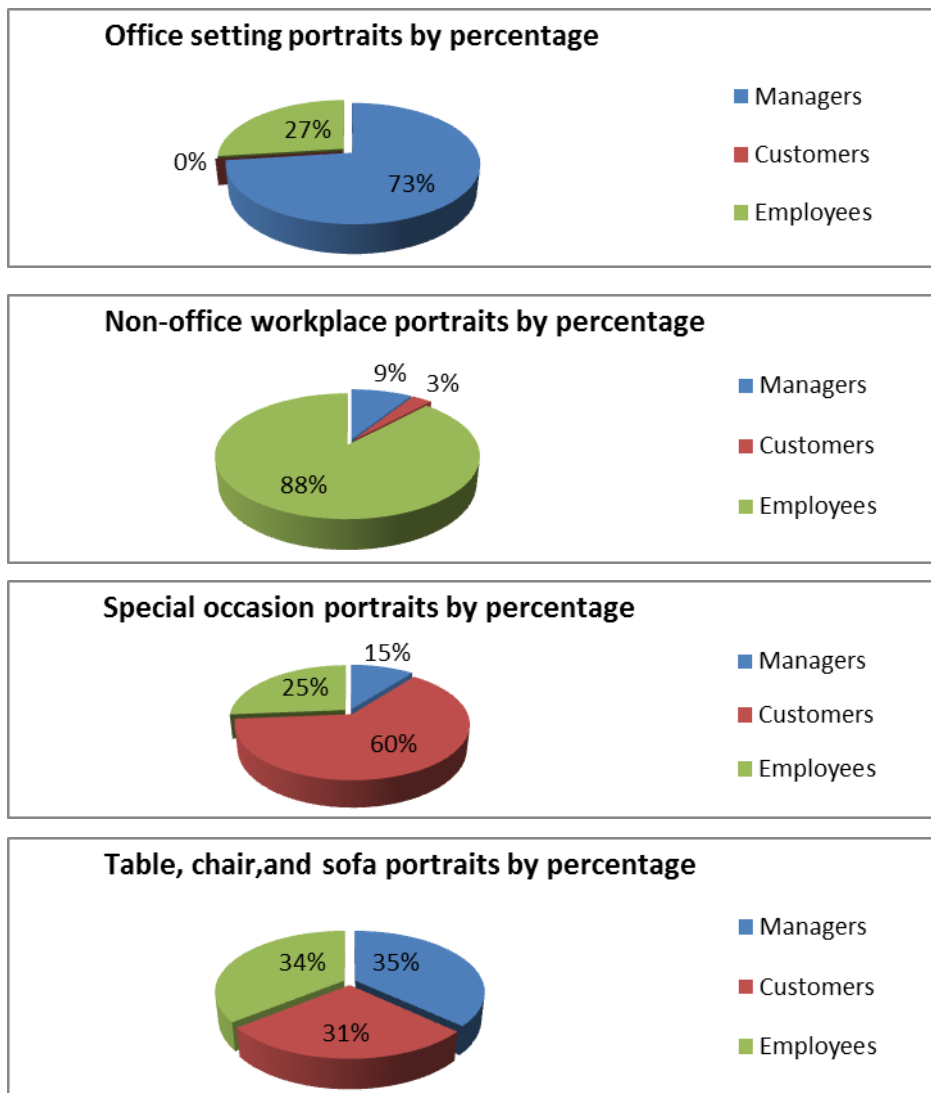
Finally, the study finds that plain spatial settings are mainly used by all firms in the depiction of managers (777, or 87% of the total), which greatly hints at the importance of plain, clear and uncluttered portraits in the presentation of top management. Perhaps, such rhetoric is used not only to focus attention upon top management portraits but also to adequately achieve the visual conveyance of specific personal traits of business leaders.

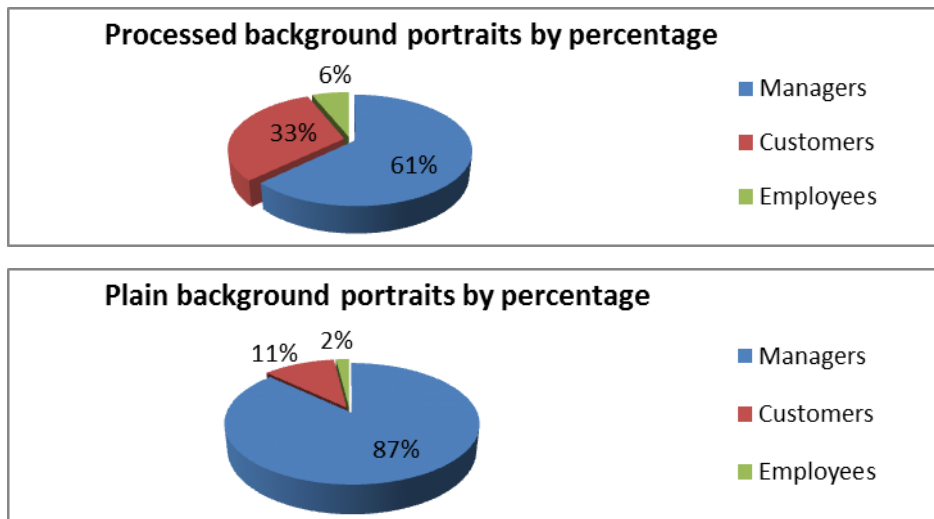
Comparatively, the UK firms produce the biggest number of plain portraits of managers (387), followed by the China H (225) and China A firms (165). The evident gaps between them reflect the respective levels of consciousness of the firm groups

regarding the use of plain portraits in the communication of top management HIC (board directors and senior governance committee members).

Customers are also the subjects of a number of plain portraits (95 and 11%), followed by employees (18 and 2%). The above analysis of a variety of spatial setting distributions between the three key HIC elements is illustrated in Graph 66.

Graph 66: The distribution of spatial code portraits among the key HIC elements by percentage





6.5 Analysis of portraits by country, industry sector, job function (managers, customers and employees) and code (physical, dress, interpersonal and spatial) [Tables 9.1 to 9.5 see Appendix 5]

Physical

The statistical data relating to gender based portraits shows different distribution levels of these within different industry sectors. Specifically, the Banking/Financial Services sector sample is notably dominant in absolute volume of male portraits with 418, which represent 65% of its total gender share, followed by Energy (308 and 80%), IT/Telecom (228 and 63%), Retail (207 and 49%) and Logistics (161 and 59%). Conversely, the largest number of female portraits is found in the Retail sector sample (133), which account for 31% of its total gender composition, followed by Banking/Financial Services (118 and 18%), IT/Telecom (71 and 20%), Logistics (51 and 19%) and Energy (49 and 13%).

The gender ranking indicates that, (i) men are much more highlighted in both

Banking/Financial Services, Energy and IT/Telecom than they are in other sectors. This indicates that male social power is more prominent in these sectors since they are more technology-driven or expertise-oriented, which hints at men being apparently having an advantage in the provision of technical added or created value; (ii) women are more conspicuous in Retail, as they are at an advantage in meeting various business sales and consultancy demands; (iii) the distinct gender oriented inclinations and divisions in employment may be substantially affected by both conventional gender based social norms and traits; (iv) there are distinct differences in terms of social power between men and women which are embodied at the industry division level. The above findings are again found to be in accordance with the previous work on gender specific portraits by Bujaki and McConomy (2010), Kuasirikun (2011) and Duff (2011).

The physical data also reveal distinct features of portrait distribution linked to age within different industry sectors. 'Young' (under 35) persons are most frequently found in Retail sample sector portraits with 127 units and a 30% share of its total age distribution pattern, followed by Banking/Financial Services (78 and 12%), IT/Telecom (101 and 28%), Logistics (67 and 25%) and Energy (27 and 11%). The percentage ranking shows that 'young' people are prevalent in Retail, IT/Telecom and Logistics.

The largest volume of portraits of 'middle' age (35 to 50) persons (213) are produced

by the Banking/Financial Services sector sample, occupying 32% of its overall age structure, followed by Retail (121 and 29%), Energy (124 and 33%), IT/Telecom (107 and 30%) and Logistics (54 and 20%). Unlike the 'young' and 'old' (over 50) age groups, the 'middle' age one is relatively more symmetrically distributed within the five investigated sectors, with the differences among them being relatively small. The 'middle' age group is significant in all sectors as it represents the intermediate HIC, the link between the 'young' and the 'old'.

The study also finds that the largest absolute number of portraits of 'old' persons is found in the Banking/Financial Services sector sample (333), accounting for 50% of its total age composition, followed by Energy (204 and 54%), IT/Telecom (103 and 29%), Logistics (109 and 41%) and Retail(101 and 24%). As shown in the ranking, the 'old' age group is much more prominent in both Banking/Financial Services and Energy where it is actually more promoted in terms of top management impression management, with older affluent talents being repeatedly presented in various portraits in the annual reports to advertise a substantial intellectual capital associated not only with high expertise but also invaluable experience.

Finally, it is interesting to mention the fact that only Banking/Financial Services and Retail produce substantial numbers of mixed age portraits (40 and 71 respectively), followed by IT/Telecom (29), Logistics (28) and Energy (17). This could serve to advertise the wider spectrum and more structured balance of age based employment

of both the Banking/Financial Services and Retail sectors and may somewhat compensate the obvious inequality and asymmetry in gender distribution.

Dress

Dress data shows that Banking/Financial Services produces the largest number of formal dress occurrences (551), accounting for 88% of its total dress composition, followed by Energy (281 and 78%), IT/Telecom (222 and 62%), Retail (182 and 44%) and Logistics (145 and 54%).

Conversely, the largest volume of casual dress units (107 and 26%) is found in Retail, followed by Banking/Financial Services (60 and 10%), IT/Telecom (90 and 25%), Logistics (64 and 23%) and Energy (17 and 5%).

Also and more dominantly, Retail produce the highest number of uniform related portraits (112, constituting 27% of its total output), followed by Energy (58 and 15%), Logistics (49 and 17%), IT/Telecom (37 and 11%), and Banking/Financial Services (8 and 1%).

However, the largest volume of mixed dress related portraits (13) are produced by the Logistics sector sample, making up 45% of its total tally, followed by Retail (12 and 3%), Banking/Financial Services (5 and 1%), IT/Telecom (2 and 1%), and Energy (1 and 1%).

The above rankings positively indicate that: (i) due to its distinct identification function, dress code is widely used by firms to highlight specific human capital assets; thus, as revealed in the above comparative ranking, different industry sectors make different strategic choices with respect to dress portrait presentation; (ii) Banking/Financial Services, Energy and IT/Telecom show a more pronounced tendency to promote their business elites – i.e., top management – by portraying them in formal dress, which could be due to the higher level of consideration given to the importance of high end strategic management for the value creation oriented development of these technical based industry sectors; (iii) conversely, Retail and Logistics are evidently located at the business front end where sale promotions, profit making and quality service provided by numerous younger and motivated employees – such as salespersons and consultants – are strongly emphasized. Not surprisingly, these types of industry are more inclined to produce high amounts of portraits characterised by casual dress, uniforms and even mixed dress to promote their abundant employee capital, which is frequently linked to products in the visual images, perhaps with the aim of enhancing the positive perception of their products and services; (iv) in addition, the more frequent instances of mixed dress found in Retail compared to the other sectors may symbolise the diversity of its front line staff and the tight and well thought out organization of the whole staff work layout; (v) finally, the Chinese Energy and Banking/Financial Services sample sectors are more aware of the use of traditional Chinese dress in today’s global business environment, where it is

used to create an impression of the unique Chinese cultural business atmosphere by showing the valuable integration and mixture of tradition and fashion.

Interpersonal

Body language portrait features such as smiles, eye contact, and hand gestures are more evenly addressed by the five investigated industry sectors, although notable differences still remain between them. Concretely, the Banking/Financial Services sector sample produces the biggest number of portraits related to smiles (458) and eye contact (585), followed by Retail (268 and 244), Energy (247 and 275), IT/Telecom (208 and 221) and Logistics (134 and 166). However, the largest amount of hand gestures are seen in the portraits produced by Retail (247), followed by Banking/Financial Services (205), Energy (100), IT/Telecom (195) and Logistics (102).

The above ranking uncovers that eye contact is much more highlighted than smiles and hand gestures by most surveyed industries except Retail, where smiles and hand gestures are notably more prominent than eye contact. This could be due to the different position of each industry sector within the whole business chain. Conspicuously, Retail's natural location is situated on the high street – i.e. at the end of the production chain – as its mission is to sell products and provide services in the pursuit of profit. Thus, a large, stable and growing customer base is of significance to Retail. Moreover, satisfaction is the most important factor directly affecting consumer

recognition and loyalty; therefore, portraits associated with smiles and hand gestures are more widely employed by Retail than they are by the other investigated sectors. Smiles tend to convey joy and relaxation; hand gestures transmit an impression of considerate and thoughtful behaviour on the part of both staff and customers when they engage in providing services and shopping. Undoubtedly, this is aimed at effectively enhancing customer comfort, confidence and contentment, which Retail ultimately pursues.

However, the other sectors, especially Banking/Financial Services, are more technical and more investment attractive; what they need is not only to provide products and services, but also to expand their brand effect, especially those professional technical parameters and contents that aid to enhance the confidence of both customers and investors, whereas their technical aspect is mainly affected and activated by the strategic insights and competence of the top management, which is at the heart of the intellectual assets (Bourdieu, 1986) and is key to assessing business potential (Davison, 2009). Thus, eye contact with the readers is widely employed in the portraits of the Banking/Financial Services top management.

Spatial

The study finds that Banking/Financial Services show an apparent preponderance over the other sectors in the aspects of office settings, tables, chairs and sofas, and processed and plain backgrounds; evidently, most of these are related to top

management. Banking/Financial Services shows much more initiative than the other sectors in utilizing these artefact and space semiotics to propagate and strengthen the impression of their business leadership, which matters most to its business performance and prosperity. It is worth mentioning that the Energy sector is also proactive in producing substantial instances of these three types of spatial settings due to its similar industrial traits of technological service and strategic management.

Comparatively, Retail prefers to highlight non-office workplaces, special occasions, and plain background portraits, in which numerous front end staff and customers can be portrayed and presented with a great deal of positive and encouraging emotion conveyed by sentiments like happiness, comfort and conviviality, which is greatly expected to assist in developing sales and customers base maintenance and expansion. Likewise, in view of strategic management and investment, Retail sector sample firms are also quite active in substantially highlighting their business leadership assets by releasing abundant plain background portraits of top management.

Another similar sector is Logistics, which focuses on the production of the highest absolute volume of non-office workplace related portraits across all sectors. This type of spatial setting should be aimed at the in-depth addressing of specific jobs and services, so that the individual intellectual character of the relevant HIC – such as productive employees, field workers and front end consultants – can be made perceivable and deliverable. This fits with the industrial traits of the Logistics sector

firms, which deliberately highlight the quality, effectiveness and promptness of their delivery services.

Finally, it is worth mentioning that IT/Telecom firms, being of a more technological bent, produce numerous instances of both special occasions and plain background related portrayals. The former could be aimed at disclosing the wide spectrum of their relationships with their suppliers and partners by advertising a series of occasions such as ceremonies, conferences and social activities in order to boost the annual report readers' confidence in their social value and trustworthiness; the latter greatly indicates that much attention is paid to highlighting the importance of the business elites for the firms' strategic development.

6.6 Conclusions and key findings

Summing up, the above study of the general portraits presentation trends in the annual reports of five selected industry sectors among UK and Chinese firms exposes that: (i) portrait rhetoric is widely applied in the firms' visual communication related to accounting intangibles and especially to human intellectual capital; (ii) there is an obvious imbalance in the social gender power framework; i.e., today's human society is still male-lead, which is evidently shown by this study based on a wealth of irrefutably authentic surveyed factual data, and shows consistency with previous relevant work; (iii) 'old' age (over 50) human intellectual capital is notably dominant in top management; (iv) the power distance within organizations trends to be

disclosed through dress code; conventionally, formal attire is used by human capital to which more decision/strategy-making authority is conferred and powerful board of directors and corporate governance committee members; conversely, casual attire and uniforms are widely used to depict general employees who are far less powerful and expected to take on more specific duties and implement concrete field work; (v) body language is widely applied in various portrayals across all industry sectors; (vi) top management is far more frequently portrayed than the other types of human capital across all investigated firms; (vii) experienced older talents are much more highlighted in top management by both UK and Chinese firms.

On the other hand, this study also finds that substantially distinct portrait distributions and differences in specific highlights are implemented by different industries in their annual reports. (i) Banking/Financial Services and Retail dominate in the absolute volume of most portrait aspects across all sectors, which, compared to the other sectors, indicates their greater awareness of the use of the four types of portrait codes to enhance the propagation and communication of intangibles; (ii) industry traits are an important factor which greatly influences a firm's propensity to use specific types of portraits to portray and highlight specific human intellectual capital elements, i.e. the more technology-oriented or strategic investment-driven industry firms, such as IT/Telecom, Banking/Financial Services and Energy, are more likely to emphasize top management portraits, whereas sales/services propelled ones, such as Retail and Logistics, tend to highlight employees and customers; (iii) the UK firms strikingly

produce a much larger absolute volume of portraits than the Chinese ones; the UK firms are less male-dominated in their portrait presentation than the Chinese ones; (iv) Chinese firms show more interpersonal power distance traits than the UK ones; (v) human capital associated with ‘young’ persons (under 35) is more widely found, by percentage, in the UK firms than it is in the Chinese ones, which tend to emphasize ‘middle’ age (35 to 50) human capital; (vi) in general, the China H firms produce a much higher quantity of portraits than their China A counterparts.

The above analysis and findings also examine and corroborate the influence of cultural factors on visual communication, which is in line with the previous academic work in which cultural factors are widely recognized to conventionally exert a widespread impact on various societal values (Hofstede, 1980, 1984; Gray, 1988; Nobes and Parker, 2010), such as the legal and political systems, ideology, the nature of capital markets, patterns of corporate ownership, interpersonal relationships and so on, Accounting does certainly not represent an exception, since it is affected by its environment, which includes the culture of the country in which it operates. Culture affects “the way that individuals would like their society to be structured and how they interact with its substructure” (Nobes and Parker, 2010, p29). As Gray (1988, p5) explains: “the value systems or attitudes of accountants may be expected to be related to and derived from societal values with special reference to work related values. Accounting values will, in turn, impact on accounting systems”. Thus, visual communication in association with intangibles is, to some extent, affected by culture.

Of Hofstede's insights into the four dimensions of culture (1984), the power distance perspective is in relation to the visual communication of aspects of human intellectual capital. The power distance is the extent to which the members of a society accept that power in institutions and organizations is unequally distributed. People in societies that have a large power distance accept a hierarchical order in which everybody has a place without the need for further justification. The fundamental issue addressed by this dimension is how society handles inequalities among people when they occur. Thus, it is manifest that the dress metaphor – as an identification tool –, and the gender quantity gap – as a measurement of gender symmetry – are directly linked to the asymmetry, inequality and hierarchy of both the portrait dress design and arrangement and the incidence and proportion of male and female human intellectual capital, especially at the top management level; this reflects the cultural influence of the power distance on visual communication related to human intellectual capital. This theoretical interpretation approach helps to provide a conceptual explanation for some of the differences in visual communication linked to human intellectual capital between UK and Chinese firms found in this research.

The key findings are summarized in Appendix 9.

Chapter 7: Conclusions

This thesis investigates the visual communication of aspects of human intellectual capital through a comparative study of UK and Chinese firms. This chapter summarizes its main findings, implications and contributions.

7.1 Summary of main findings

7.1.1 The use of visual material across countries and industry sectors including human intellectual capital data (Chapter 4)

The use of visual material across country groups

(1) The ranking for the overall amounts of both general and HIC related visual material produced is topped by the UK firms, followed, in order, by the Hong Kong and the mainland China ones both in terms of occurrences and space. (2) the UK firms use a greater variety of visual tools, from pictures and photographs to graphs and charts. This is in line with there being a greater awareness of impression management in the more sophisticated UK than there is in developing Mainland China. Hong Kong represents the middle ground. (3) All groups use more pictures, especially photographs, than graphs and charts, which is in accordance with the findings of Davison and Skerratt (2007). However, the UK firms employ more non-photographs, such as paintings and drawings, perhaps due to the UK's greater development of impression management and to the greater use of creative design and aesthetics. Hong Kong firms use more mixed pictures probably because of their middle ground position

in the international context.

The use of visual material to communicate HIC

Large amounts of all types of visual material, including pictures, graphs and charts, are used to communicate HIC across all country groups. The proportion of photographs used to communicate HIC is especially high. This fits in with prior literature that highlights the inadequacy of the traditional accounting framework to communicate intangibles (Lev, 2001; Hand and Lev, 2003; Zambon 2003) and it reinforces the findings of Davison and Skerratt (2007, 2009); Campbell, Mcphail and Slack (2009) and Bernardi, Bean and Weippert (2005).

The use of visual material across industry sectors

(1) UK firms dominate in the production of visual communication across all groups when analysed by five industry sectors, followed, in order, by the Hong Kong firms and the mainland Chinese ones. (2) All industry sector groups use more pictures and photographs than graphs and charts, which further reinforces the findings of Davison and Skerratt (2007). (3) The Banking/Financial Services and Retail firms use more visual communication both in overall and HIC related visual material than the Energy, Logistics and IT/Telecom ones. This would fit with more service-oriented sectors needing more communication with the public and having a higher proportion of human capital.

7.1.2 The use of visual forms by country and by industry sector (Chapter 5)

Picture distribution features

(1) Photographs are the most used type of picture across all countries and sectors. (2) The majority of pictures feature captions to guide their meaning across all country groups and industry sectors. This in line with Barthes's (1982b) theory, in "Rhetoric of the Image", of business images using linguistic captions to 'anchor' the meaning of their iconic part. (3) Both the occurrences and space accounted for by pure pictures of all groups are higher than those accounted for by inserted pictures. This reinforces the prior work by Lee (1994), Davison and Skerratt (2007) and Beattie et al. (2008).

Graphs and charts distribution features

(1) Bar charts are used much more than other forms (pie, line, circle, map and diagram) by all country groups and industry sectors. This further reinforces the findings of Beattie and Jones (1992). The graphs of mainland Chinese and Hong Kong firms had not previously been examined. (2) Graphs/charts are frequently used to analyse and communicate the HIC, ranking, top to bottom, from top management to customers, to employees. (3) Diagram, circle and bar graphs/charts are most used for management, whereas bar, pie and circle ones are most used for customers and employees. The UK firms use far more circle graphs than other forms for management; Both groups of Chinese firms use diagram graphs/charts much more

than other forms to present management. This link between graphs and HIC had not previously been examined.

7.1.3 Portrait analysis by country and by industry sector (Chapter 6)

Portrait distribution features by country

(1) The ranking of the proportions of male portraits goes down from the mainland China to the Hong Kong firms, to the UK ones. This is in line with prior studies of gender that have suggested the subordination of women in eastern countries such as Thailand (Kuasirikun, 2011). (2) Photographic portraits of people under the age of 35 are more commonplace in the annual reports of the UK firms, whereas the annual reports of Mainland Chinese firms feature the greatest proportion of portraits of people above the age of 50. This is in line with the cultural expectation of greater respect being afforded to older people in eastern countries (Hofstede, 1984). (3) Formal dress ranking goes down from the mainland Chinese to the Hong Kong firms, to the UK ones, particularly with regard to management. This fits with Hofstede's theory of culture that shows China having a culture of great power distance (Hofstede, 1980). (4) Interpersonal codes (smiles, hand gestures and eye contact) do not vary greatly between country groups. (5) The main differentiator in spatial settings is that the portraits of the mainland China firms feature the greatest proportion by far of plain backgrounds. This is in line with the more sophisticated business west (the UK) having a greater awareness of impression management through the provision of background settings to portraits than the developing east (mainland China). (6) Across

all groups, the vast majority of managers represented are male. The greatest proportion is found in the annual reports of the mainland China firms (90%) compared to Hong Kong (86%) and the UK (81%). This fits with gender studies that show the percentage of pictures of males shown by firms (for example, the work by Bujaki and McConomy, 2010). Female subordination is greater in eastern countries, reinforcing the findings of Kuasirikun (2011), Duff (2011) and Bujaki and McConomy (2010). (7) Managers are formally dressed in all country groups. The ranking once again goes down from mainland China to the UK, which indicates the common global culture that sees formal dress being commonly used for the most important people in the most important occasions.

Also, photographs are the most widely used to present the top management capital. This examines the insight of Sontag (1971) of photographs giving documental evidence, indicating that to photograph is to confer importance, and is in line with the previous work by Campbell, McPhail and Slack (2009), Preston and Young (2000) and Bernardi, Bean and Weippert (2005).

Portrait analysis by sector

(1) The Energy sector appears to be the most conservative sector. It has the greatest proportion of males, the greatest proportion of portraits of persons above 35, and the second-greatest proportion of people in formal dress (after Banking/Financial Services). Male social power is more portrayed in these sectors since they are more

technology-driven or expertise-oriented. (2) The Retail sector shows the greatest proportion of female portraits and the largest proportion of individuals dressed in uniform. The distinct inclination and division of male and female pictures shown in the firms' annual reports may be mainly influenced by both conventional gender social division and traits. (3) Male pictures are much more highlighted in the Banking/Financial Services, Energy and IT/Telecom sectors than they are in the others. This signals that men are apparently credited with added technical value or creation. (4) The pictures of people under 35 are more highlighted in Retail, IT/Telecom and Logistics. This suggests that photographs of young people are more shown in production/sale-oriented sectors. (5) Only the Banking/Financial Services and Retail sectors produce a significant amount of mixed age portraits.

7.2 Discussion of the contrast between UK and Chinese firms

Both in terms of occurrences and space, there is a distinct disparity in visual communication, especially in respect of HIC, between UK and Chinese firms. It is argued here that this clear-cut gap could be due to their notably different levels of awareness of visual communication. An important factor resulting in such a wide gap is likely due to the effect of advertising awareness that has been booming since the appearance of modern industrial development. Advertisement is likely to be not only projective, selective and constructive, but also representation-oriented, which is possibly related to accounting that is "itself more construction than representation" (Davison, 2009, p3). Visual communication has actually been around for longer than

could be thought, as substantial archaeology work and relevant archives prove that visual communication had already been widely used in the various other forms before its modern narrative character had been devised. However, visual communication in modern business strictly derives from the industrial revolution that took place in the UK since the 18th century, which brought about the modern consciousness of advertising that provides so much rapidly generated and widely applied visual communication for the promotion of various businesses. Therefore, marketing-driven advertisement with its various and plentiful visual presentation has greatly boomed in the western countries. Consequently, the western companies constantly accumulate a wealth of expertise in impression management construction, which certainly penetrates corporate accounting communication. Compared to western firms, the Chinese ones are obviously lacking in awareness due to historical factors such as a less developed business atmosphere, less practice and an insufficient accumulation of the various aspects of expertise in impression management.

The various theoretical insights and interpretations of a numbers of researchers (Sikes, 1986; Morgan, 1986; Ewen, 1988; Harvey, 1989; Featherstone, 1991; Davison, 2002, 2007, 2010 and Beattie and Jones, 2008) in Chapter 2 also greatly support the role of impression management and the argument about the importance of being aware of it in today's business world. They widely acknowledge the useful functions of impression management, such as perception sensitivity, embellishment efficiency and being a bridge linking art and commerce.

Although prior work has thoroughly examined the issues of visual communication in accounting, even in the west, academic work on visual communication in corporate annual reports has been sparse (Simpson, 2000). The literature on visual communication in the field of accounting is infrequent (Davison, 2007), not to mention the lack of related academic work in eastern countries.

Therefore, the awareness of Chinese firms regarding the application of visual communication and impression management for external communication in their annual reports is inadequate, which results in the notable gap in visual communication literature between the annual reports of the UK firms and those of their Chinese counterparts.

7.3 The contributions of this thesis

This thesis adds new insights to the existing literature on the visual communication of aspects of HIC. As the literature review showed, previous work has looked into the visual representation of people in Canada, the UK, New Zealand and Thailand. For instance, Steenkamp (2007) and Steenkamp, Hooks and Steward (2010) focussed on both pictures and employees; Campbell, Mcphail and Slack (2009) surveyed the human face in corporate annual reports; Bernardi, Bean and Weippert (2005) investigated the diversity of pictures of corporate boards; Guthey and Jackson (2005) concerned themselves with CEO portraits and the photographs of top management

staff; Davison (2010) studied business elite portraits; Bujaki and McConoy (2010) explored gender in the annual reports of Canadian firms; Duff (2011) conducted a survey of female photographs produced by UK accounting firms; Kuasirikun (2011) investigated gender related faces in the annual reports of Thai firms. However, they only partly discussed the issue of both human and visual forms (basically focussing on photographs); not only that, they failed to provide a detailed discussion of the visual methodological issues.

This thesis is the first to conduct a comparative study on visual communication issues between UK and Chinese firms; actually, it is the first to build a bridge between east and west in this interdisciplinary field. It considers all the various key visual forms, such as pictures, graphs and charts. It clearly focuses on human intellectual capital (top management, employees, and customers), including a gender study. It further considers the cultural dimensions (physical, dress, interpersonal and spatial). It combines a visual study and a portrait analysis. It therefore provides a complete picture of this field of study.

This thesis adds to the work on visual communication in financial reporting by provide an up-to-date analysis of the structure and features of visual communication both in the UK and Chinese (mainland and Hong Kong) financial reporting.

This thesis adds methodological considerations pertaining to content analysis through

the detailed formulation of definitions and of measurement. It provides a clarification of the differential between pictures and photographs that seems to have been overlooked by a number of prior researchers; it is also the first to further define the picture concept into three categories by technology (photographs, non-photographs and mixed pictures) and two categories by linguistic message (pure and inserted pictures) underpinned by a wide range of visual theories such as Barthes's "Rhetoric of the image" and Berger's insight into the way people see. It develops a new measurement device called the '18ths geometric area' to measure and calculate the specific area of space occupied by a visual, which reduces the challenge of space counting and make it possible to quantify any specific visual item. It also technically provides some new solutions to the difficulties and challenges peculiar to both space and unit counting in specific contexts that had rarely been discussed in prior work, as was discussed in the preceding methodology section.

It adds a more detailed analysis of both forms of visual and human intellectual capital communication than was found in prior work. It adds non-photographs and mixed pictures communication analysis to the existing literature; it add a series of up-to-date analyses of pictures, graphs and charts used by both UK and Chinese firms to the existing literature; it adds the visual communication analysis of top management, employees and customers in both UK and Chinese firms; it adds an up-to-date visual communication analysis of five selected industry sectors to the existing literature; its comprehensive and integrated analysis and findings in aspects of customers, top

management, portraits, employees and new visual communication trends further reinforce the findings of Davison and Skerratt (2007), Steenkamp (2007), Steenkamp, Hooks and Steward (2010), Campbell, Mcphail and Slack (2009), Bernardi, Bean and Weippert (2005), Guthey and Jackson (2005), Davison (2010), Bujaki and McConoy (2010), Duff (2011) and Kuasirikun (2011).

Finally, this exploratory study also examines the cultural influence on visual communication in relation to intellectual capital and intangibles, especially in terms of the portrait presentation of HIC up-to-date insights and findings on the influence of cultural factors on visual communication in HIC with a large amount of documental facts and evidence. This particularly examines the previous work on the theoretical framework of cultural influence by Hofstede (1980, 1984) and the insights into cultural influence on accounting systems of Gray (1988) and Nobes and Parker (2010). The portrait part of the study also enriches and reinforces the work by Davison (2010).

7.4 The limitations of this research

The limitations in this thesis are evident. First, although rationally refined measures and rules have been set up and taken to make the analysis more objective, the use of content analysis itself is inevitably affected by the judgment and understanding of the coder. Second, what has been proposed in this paper may not offer the best solution due to the disputed availability and rationality of methodological issues, such as the

choice between different unitizing methods and differences in data measuring quality but it does lead to a richer level of analysis of the visual communication of human intellectual capital in 150 selected annual reports. Third, the survey scale and range may not be wide enough as this thesis investigates only five industry sectors; new features could arise if the sample scale were to be broadened.

7.5 Further research

Therefore, further research to extend the ideas presented in this paper is essential. Pictures, particularly photographs, are so dominant in visual communication that more in depth attention or the use of a wider range of longitudinal case studies is needed. For example, work could be done on the visual communication of SMES, that are more local and, further, on new digital visual communication by means of new information technologies, such as three dimensional printing, Facebook, Wechat and cubic picture, that perhaps will find application in the digital documents of future firms in relation to accounting communication.

References

- Abeyssekera, I. and Guthrie, J. (2004) 'Human capital reporting in a developing nation', *The British Accounting Review*, 36, pp. 251–268.
- Aerts, A.W. and Cormier, B. D. (2009) 'Media legitimacy and corporate environmental communication', *Accounting, Organizations and Society*, 34, pp. 1–27.
- Backhuijs, J.B., Holterman, W.G.M., Oudman, R.S., Overgoor, R.P.M. and Zijlstra, S.M. (1999) 'Reporting on intangible assets, OECD Symposium on Measuring and Reporting of Intellectual Capital', Amsterdam, June 9–11.
- Barker, R. (2000) 'FRS3 and analysts use of earnings', *Accounting and Business Research*, 30 (2), pp. 95-109.
- Barthes, R. (1982a) 'The Photographic Message' in Heath, S. *Image, Music, Text*, London: Fontana Press, pp. 15-31.
- Barthes, R. (1982b) 'Rhetoric of the Image' in Heath, S. *Image, Music, Text*, London: Fontana Press, pp. 32-51.
- Beattie, V. A. and Jones, M. J. (1992) 'The Use and Abuse of Graphs in Annual Reports: a Theoretical Framework and Empirical Study', *Accounting and Business Research*, 22 (88), pp. 291-303.
- Beattie, V. A. and Jones, M. J. (2000). 'Impression Management: The Case of Inter-country Financial Graphs', *International accounting, auditing & taxation*, 9(2). pp.159-183.
- Beattie, V. A. and Jones, M. J. (2002), 'Measurement distortion of graphs in corporate reports: an experimental study', *Accounting, Auditing and Accountability Journal*, 15 (4), pp. 546-564.
- Beattie, V. A. and Thomson, S. J. (2007) 'Lifting the lid on the use of content analysis to investigate intellectual capital disclosures', *Accounting Forum*, 31, pp.129-163.
- Beattie, V. A., Dhanani, A. and Jones, M. J. (2008) 'Investigating presentational change in UK annual reports: a longitudinal perspective', *Journal of Business Communication*, 45 (2), pp.181-222.
- Benschop, Y. and Meihuizen, H. E. (2002) 'Keeping up gendered appearances: representations of gender in financial annual reports', *Accounting, Organizations and Society*, 27 (7), pp. 611-36.

Berelson, B. (1952) *Content analysis in Communication Research*, New York: Free Press.

Berger, J. (1972) *Ways of seeing*, London: British Broadcasting Corporation.

Berman, E., Bound, J. and Griliches, Z. (1994) 'Changes in the demand for skilled labor within U.S. manufacturing: evidence from the annual survey of manufactures', *The Quarterly Journal of Economics*, 109, pp. 367–397.

Bernardi, R.A., Bean, D.F. and Weippert, K.M. (2002), 'Signalling gender diversity through annual report pictures: a research note on image management', *Accounting, Auditing & Accountability Journal*, 15(4), pp. 609-616.

Bernardi, R.A., Bean, D.F. and Weippert, K.M. (2005), 'Minority membership on boards of directors: the case for requiring pictures of boards in annual reports', *Critical Perspectives on Accounting*, 16(8), pp. 1019-1033.

Blair, M. and Wallman, S. (2001) *Unseen Wealth*, Washington: Brookings Institution.

Bohme, G. (2003) 'Contribution to the critique of the aesthetic economy', *Thesis Eleven*, 73, pp. 71-82.

Bontis, N. (2003) 'Intellectual capital disclosure in Canadian corporations', *Journal of Human Resource Costing and Accounting*, 7(1/2), pp.9–20.

Bose, S. and Thomas, K. (2007), 'Applying the balanced scorecard for better performance of intellectual capital', *Journal of Intellectual Capital*, 8(4), pp. 653-665.

Bozzolan, S., Favotto, F. and Ricceri, F. (2003) 'Italian annual intellectual capital disclosure', *Journal of Intellectual Capital*, 4(4), pp. 543–558.

Braun, G. and Rodriguez, R. (2008) 'Earnings management and accounting values: a test of Gray (1988)', *Journal of International Accounting Research* 7(2): pp. 1–23.

Brennan, N. (2001) 'Reporting intellectual capital in annual reports: evidence from Ireland', *Accounting, Auditing and Accountability Journal*, 14 (4), pp.423-36.

Breton, G. and Taffler, R. J. (2001) 'Accounting information and analyst stock recommendation decisions: A content analysis approach', *Accounting and Business Research*, 31(2), pp. 91–101.

Brooking, A. (1996) *Intellectual Capital: Core Asset for the Third Millennium* London:

International Thompson Business Press.

Brummet, R.L., Flamholtz, E.G. and Pyle, W.C. (1968) 'Human resource measurement –a challenge for accountants', *The Accounting Review*, 43, pp. 217-24.

Bryman, A. (2001), *Social Research Methods*, Oxford: Oxford University Press.

Bujaki, M. L. and McConomy, B. J. (2010a) 'Gendered interactions in corporate annual report photographs', *Gender in Management: An International Journal*, 25(2), pp. 119-136.

Bujaki, M. L. and McConomy, B. J. (2010b) 'The Portrayal of Women in Canadian Corporate Annual Report', *Canadian Journal of Administrative Sciences*, 27, pp. 210–223.

Bukh, P., Larsen, H. and Mauritsen, M. (2001) 'Constructing intellectual capital statements', *Scandinavian Journal of Management*, 17(1), pp. 87-108.

Campbell, D. McPhail, K. and Slack, R. (2009) 'Face work in annual reports', *Accounting, Auditing & Accountability Journal*, 22 (6), pp. 907-932.

Campbell, D. and Rahman, M.R.A. (2010) 'A longitudinal examination of intellectual capital reporting in Marks & Spencer annual reports, 1978–2008', *The British accounting Review*, 42, pp.51-70.

Carney. T.F. (1972) *Content analysis: A technique for systematic inference from communication*. London: Batsford.

Cieslewicz, JK. (2014) 'Relationship between national economic culture, institutions, and accounting: Implications for IFRS', *Critical Perspectives on Accounting*, 25, pp. 511-528.

Chand, P. (2012) 'the effects of ethnic culture and organizational culture on judgments of accountants', *Advances in Accounting incorporating Advances in International Accounting*, 28, pp. 298-306.

Chenhall, RH. (2003) 'Management control systems design within its organizational context: findings from contingency-based research and directions for the future', *Accounting, Organizations and Society* 28(2/3), pp. 127–68.

Cho, C. H., Phillips, J. R., Hageman, A. M. and Patten, D. M. (2009) 'Media richness,

user trust, and perceptions of corporate social responsibility: An experimental investigation of visual website disclosures', *Accounting, Auditing & Accountability Journal*, 22 (6), pp. 933-952.

Cleveland, W. S. (1993) *Visualizing data*. New Jersey: Hobart Press.

Collier, P. (2001) 'Implications of ethnic diversity', *Economic Policy*, 16 (32), pp.127-166.

Cunningham, E. (1990) 'Up there with the Best—and Deservedly So', *Accountancy Age*. 10 May.

Davis, L. R. (1989) 'Report format and the decision maker's: an experimental investigation', *Accounting, Organizations and Society*, 14 (5/6), pp. 495-508.

Davison J. (2002) 'Communication and antithesis in corporate annual report; a research note', *Accounting, Auditing & Accountability Journal*, 15(4), pp. 594-608.

Davison, J. (2004) 'Sacred vestiges in financial reporting: mythical readings guided by Mircea Eliade', *Accounting, Auditing & Accountability Journal*, 17(3), pp. 476-497.

Davison, J. (2007), 'Photographs and accountability: cracking the codes of an NGO', *Accounting, Auditing & Accountability Journal*, 20 (1), pp. 133-158.

Davison, J. (2008) 'Rhetoric, repetition, reporting and the dot.com era: words, pictures, intangibles', *Accounting, Auditing & Accountability Journal*, 21 (6), pp. 791-826.

Davison, J. (2009), 'Icon, iconography, iconology: visual branding, Banking/Financial Services and the case of the bowler-hat', *Accounting, Auditing & Accountability Journal*, 22 (6), pp. 883-906.

Davison, J. (2010) '(In) visible (in) tangibles: visual portraits of the business elite', *Accounting, Organizations and Society*, 35 (2), pp. 165-183.

Davison, J. (2013), 'Visual perspectives' in *The Routledge Companion to Accounting Communication*, Oxford and New York: Routledge.

Davison, J. (2014), 'Visual rhetoric and the case of intellectual capital', *Accounting, Organizations and Society*, 39 (1), pp20-37.

Davison, J. and Skerratt, L. (2007) *Words, pictures and intangibles in the corporate report*. Edinburgh: The Institute of Chartered Accountants of Scotland.

Davison, J. and Warren S., (2009) 'Imag[in]ing accounting and accountability', *Accounting, Auditing & Accountability Journal*, 22 (6), pp. 845-857.

DATI (Danish Agency for Trade and Industry) (2000) *A Guideline for Intellectual Capital Statements: A Key to Knowledge Management*, Danish Agency for Trade and Industry, Copenhagen.

DMSTI (2003), *Intellectual Capital Statements – The New Guideline*, Danish: Danish Ministry of Science, Technology and Innovation, Copenhagen.

Duff, A. (2011) 'Big four accounting firm's annual reviews: A photographs analysis of gender and race portrayals', *Critical perspectives on Accounting*, 22, pp. 20-30.

Dumay, J. C. and Tull, J. A. (2007), 'Intellectual capital disclosure and price-sensitive Australian Stock Exchange announcements', *Journal of Intellectual Capital*, 8(2), pp. 236-255.

Edvinsson, L. (1997) 'Developing intellectual capital at Skandia' *Long Range Planning* 30 (3), pp.366-373.

Edvinsson, L. and Malone, M.S. (1997) *Intellectual Capital: The Proven Way to Establish Your Company's Real Value by Measuring its Hidden Values*, London: Piatkus.

Edvinsson, L. and Sullivan, P. (1996) 'Developing a model for managing intellectual capital', *European Management Journal*, 14(4), pp. 356–364.

Elias, N. (1972) 'Summary of discussion by William C Pyle of "The effects of human asset statements on the investment decision" and a reply', *Empirical Research in Accounting Selected Studies*, pp. 234–240.

Elsbach, K. (1994) 'Managing organizational legitimacy in the California cattle industry: the construction and effectiveness of verbal accounts' *Administrative Science Quarterly*, 39, pp. 57-88.

EN – EU IAS 38 (2009) "International Accounting Standard 38: Intangible Asset", EC staff consolidated version as of 16 September 2009.

Erickson, G. S. and Rothberg, H. N. (2009) 'Intellectual capital in business-to-business markets', *Industrial Marketing Management*, 38, pp. 159–165.

Eustace, C. (2001) *The Intangible Economy: Impact and Policy Issues, Report of the High Level Expert Group on the Intangible Economy*, EU Commission, Brussels.

Ewen, S. (1988) *All Consuming Images: The Politics of Style in Contemporary Culture*, New York: Basic Books.

Featherstone, M. (1991) *Consumer Culture and Postmodernism*. London: Sage.

Flamholtz, E.G. (1999) *Human Resources Accounting*, 3rd ed. Boston: Kluwer, MA.

Flug, K. and Hercowitz, Z. (2000) 'Equipment investment and the relative demand for skilled labor: international evidence', *Review of Economic Dynamics*, 3, pp. 461–485.

Foucault, M. (1979) *Discipline and Punish – the Birth of the Prison*, Harmondsworth: Penguin.

Foucault, M. (1980) 'Two lectures', in Gordon, C. (Ed.), *Power/Knowledge: Selected Interviews and Other Writings 1972-1977 by Michel Foucault*. New York: Pantheon Books, pp. 78-108.

FRC (2009), *Louder than words*, Financial Reporting Council, England, London.

Gate, S. and Langevin, P. (2010) 'Human capital measures, strategy, and performance: HR managers' perceptions', *Accounting, Auditing & Accountability Journal*, 23 (1), pp. 111-132.

Garcia-Meca, E., Parra, I., Larran, M. and Martinez, I. (2005) 'The Explanatory Factors of Intellectual Capital Disclosure to Financial Analyst', *European Accounting Review*, 14 (1), pp. 63–94.

Gates, B. (1999) *Business @ the Speed of Thought*. London: Penguin.

Ginzel, L. E., Kramer, R. M. and Sutton, R. I. (1993), 'Organizational Impression management as a Reciprocal and Influence Process: The Neglected Role of the Organizational Audience', *Research in Organizational Behaviour*, 15, pp. 227-266.

Gong, Y., Shenkar, O., Luo, Y., and Nyaw, M. (2005) 'Human Resources and International Joint Venture Performance: A System Perspective', *Journal of International Business Studies*, 36 (5), pp. 505-518.

Gowthorpe, C., Kasperskaya, Y. and Perramon, J. (2008) 'Reporting intellectual capital in Spain', *Corporate Communications: An International Journal*, 13(2), pp. 168-181.

Graham, A.B. and Pizzo, V.G. (1998) 'A question of balance: case studies in strategic

knowledge management. In: Klein, D.A., (Ed.)', *The Strategic Management of Intellectual Capital*, Butterworth/Heinemann, Woburn, MA.

Graves, O.F., Flesher, D.L. and Jordan, R.E. (1996) 'Pictures and the bottom line: the television epistemology of US annual reports', *Accounting, Organizations and Society*, 21(1), pp. 57-88.

Gray, S.J. (1988) 'Towards a theory of cultural influence on the development of accounting systems internationally', *Abacus*, 24(1), pp. 1-15.

Gray, R., Kouhy, R. and Lavers, S. (1995) 'Constructing a research database of social and environmental reporting by UK companies', *Accounting, Auditing and Accountability Journal*, 8(2), pp.78-101.

GRI (2002), Reporting Guidelines, Global Reporting Initiative, Boston, MA.

Guthey, E. and Jackson, B. (2005) CEO 'Portraits and the Authenticity Paradox', *Journal of Management Studies*, 42(5), pp. 1057-1082.

Guthrie, J. and Parker, L.D. (1989) 'Corporate social reporting: a rebuttal of legitimacy theory'. *Accounting and Business Research*, 19(76), pp. 343-352.

Guthrie, J. and Petty, R. (2000) 'Intellectual capital: Australian annual report practices', *Journal of Intellectual Capital*, 1 (3), pp. 241-251.

Guthrie, J., Petty, R., Yongvanich, K. and Ricceri, F. (2004) 'Using content analysis as a research method to inquire into intellectual capital reporting', *Journal of Intellectual Capital*, 5 (2), pp.282-293.

Guthrie, J., Steane, P. and Farnet, F. (2009) 'IC Reporting in the Australian Red Cross Blood Service', *Journal of Intellectual Capital*, 10 (4), pp. 504-519.

Hand, J. and Lev, B. (2003) *Intangible Assets: Values, Measures, and Risks*. Oxford: Oxford University Press.

Haslan, C., Neale, A. and Johal, A. S. (2000), *Economics in a business context*, London: Business Press.

Harrison, G.L. and McKinnon, J.L. (1999) 'Cross-cultural research in management control systems design: a review of the current state', *Accounting, Organizations and Society*, 24(5): pp. 483-506.

- Harvey, D. (1989) *The Condition of Postmodernity*. Cambridge: Basil Blackwell.
- Hekimian, J.S. and Jones, C.H. (1967) 'Put people on your balance sheet', *Harvard Business Review*, 45, pp. 105-113.
- Heskett, J.L., Sasser, W.E. and Schlesinger, L.A. (1997) *The Service Profit Chain. How Leading Companies Link Profit and Growth to Loyalty, Satisfaction and Value*. New York: Free Press.
- Hill, W. Y. and Milner, M. M. (2003) 'Guidelines for graphical display in financial reporting', *Accounting Education*, 12 (2), pp. 135-157.
- Hofstede G. (1980) *Culture's consequences: international differences in work-related values*. Beverly Hills, CA: Sage.
- Hofstede, G. (1984) 'Cultural dimensions in management and planning', *Asia Pacific Journal of Management*, 1 (2).
- Hofstede G and Bond MH. (1988) 'The Confucius connection: from cultural roots to economic growth', *Organizational Dynamics* 16(4): pp4–21.
- Holland, J. (2001) 'Finance institutions, intangibles and corporate governance', *Accounting, Auditing & Accountability*, Vol.14, No.4, pp.497-529.
- Holmes, G. (1984) 'How to Present Your Message Graphically', *Accountancy*, pp. 64-71.
- Holsti, O. R. (1969) *Content analysis for the Social Sciences and Humanities*, Reading, Mass, Addison-Wesley.
- Hooghiemstra, R. (2000) 'Corporate communication and impression management', *Journal of Business Ethics*, 27(1/2), pp55–68.
- House RJ, Hanges PJ, Javidan M, Dorfman PW and Gupta V. (2004) *Culture, leadership, and organizations: the globe study of 62 societies*. London: Sage.
- Hsu, Y. H. and Fang, W. (2009) 'Intellectual capital and new product development performance: The mediating role of organizational learning capability', *Technological Forecasting & Social Change*, 76, pp. 664–677.
- Huberman, A.M., and Miles, M. B. (1994) 'Data Management and Analysis Methods', in N.K.Denzin and Y.S. Lincoln (eds), *Handbook of Qualitative Research* (Thousand Oaks, Calif.: Sage).

Hussey, R. (1990) 'Accuracy with a Dash of Panache', *AA Magazine*, October, pp. 18-25.

Husin, N. M., Hooper, K. and Olesen, K. (2012) 'Analysis of intellectual capital disclosure - an illustrative example', *Journal of Intellectual Capital*, 13(2), pp. 196 – 220.

IASB (2004) *Intangible Assets: International Accounting Standard 38*, International Accounting Standards Board, London.

IAS 38, EC staff consolidated version as of 16 September 2009, EN – EU IAS 38.

Inderpal, S., Zahn, V.D. and Mitchel J.-L.W.I, (2008) 'Determinants of intellectual capital disclosure in prospectuses of initial public offerings', *Accounting & Business Research*, 38 (5), pp. 409-431.

Jeacle, I. (2008) 'Beyond the boring grey: the construction of the colourful accountant', *Critical Perspectives on Accounting*, 19 (8), pp. 1296-320.

Joseph Nye (2004) *Soft power: The Means to Success in World Politics*, Harvard.

Kaplan, R.S. and Norton, D.P. (1992) 'Balanced scorecard – measures that drive performance', *Harvard Business Review*, January/February, pp. 71-79.

Kaplan, R.S. and Norton, D.P. (1993) 'Putting the balanced scorecard to work', *Harvard Business Review*, September/October, pp. 134-142.

Kaplan, R.S. and Norton, D.P. (1997) 'Why does business need a balanced scorecard?', *Journal of Strategic Performance Measurement*, February/March, pp. 5-11.

Kress, G. and Leeuwen, T. V. (2006) *Reading images: the grammar of visual design*, Cornwall.

Krippendorff, K. (2004) *Content analysis: An introduction to its methodology*. Second edition, London: SAGE Publications.

Krueger, A.B. and Lindahl, M. (2001) 'Education and growth: why and for whom?', *Journal of Economic Literature*, 39, pp. 1101–1136.

Kuasirikun, N. (2011) 'The portrayal of gender in annual reports in Thailand', *Critical Perspectives on Accounting*, 22, pp. 53–78.

Lang, M. and Lundholm, R. (1993) 'Cross-Sectional Determinants of Analyst Ratings of Corporate Disclosures', *Journal of Accounting Research*, 31 (2), pp.246-271.

Leary, M. R. and Kowalski, R. M. (1990) 'Impression management: A literature review and two-component model'. *Psychological Bulletin*, 107(1), 34-47.

Lee, T. (1994) 'The changing form of the corporate annual report', *The Accounting Historian's Journal*, 21(1), pp. 215-32.

Leung, K. and Kwong, J. Y. Y., (2003) 'Human resource management practices in international joint ventures in mainland China: a justice analysis', *Human Resource Management Review*, 13, pp. 85-105.

Lev, B. and Schwartz, A. (1971) 'On the Use of the Economic Concept of Human Capital in Financial Statements', *The Accounting Review*, 46(1), pp. 103-112.

Lev, B. (2001) *Intangibles: Management, Measurement and Reporting*. Washington D.C.: Brooking Institution Press.

Lev, B. (2002) 'Intangibles at a crossroads: what's next?', *Financial Executive* March/April, pp. 35-40.

Lev, B. and Zambon, S. (2003) 'Intangibles and intellectual capital: an introduction to a special issue', *European Accounting Review*, 12 (4), pp. 597-603.

Lev, B. (2004) 'Sharpening the Intangibles Edge', *Harvard Business Review*, 82(6), pp. 109-116.

Lev, B. (2008) 'A rejoinder to Douglas Skinner's Accounting for intangibles - a critical review of policy recommendations', *Accounting and Business Research*. 38 (3), International Accounting Policy Forum. pp. 209-213.

Liebowitz, J. and Wright, K. (1999) 'Does measuring knowledge make "cents"?'', *Expert Systems with Applications*, 17 (2), pp. 99-103.

Likert, R. (1967) *The Human Organization: Its Management and Value*. New York: McGraw-Hill.

Lopez-Bazo, E. and Moreno, R., (2008) 'Does human capital stimulate investment in physical capital? Evidence from a cost system framework', *Economic Modelling*, 25, pp. 1295-1305.

Luo, X. R., Koput, K. W. and Powell, W. W. (2009) 'Intellectual capital or signal?

The effects of scientists on alliance formation in knowledge-intensive industries', *Research Policy*, 38, pp. 1313–1325.

Lynn, B. E. (1998a) 'Intellectual capital: key to value-added success in the next millennium', *the CMA Magazine*, 72 (1), pp.10-15.

Lynn, B. E. (1998b) 'Intellectual capital: key to value-added success in the next millennium', *The CMA Magazine*, 72 (1), pp.10-15.

Lynn, B. E. (1999) 'Culture and intellectual capital management: a key factor in successful IC implementation', *International Journal of Technology Management*, 18 (5-7), pp. 590-603.

Lyotard, J.F. (1984) *The Postmodern Condition – A Report on Knowledge*. Manchester: Manchester University Press.

Markus, K (2006), last modified, <http://www.cl.cam.ac.uk/~mgk25/iso-paper.html>, checked online on 13/10/2010.

Marr, B., Gray, D. and Neel, A. (2003) 'Why do firms measure their intellectual capital?', *Journal of Intellectual Capital*, Vol. 4 No. 3. pp. 441-464.

Mather, P., Ramsay, A. and Serry, A. (1996) 'The use and representational faithfulness of graphs in annual reports: Australia evidence', *Australian Accounting Review*, Vol.6, No. 2, pp.56-63.

Mavrinac, S. C. and Boyle, T. (1996) 'Sell-side analysis, non-financial performance evaluation, and the accuracy of short-term earnings forecasts', working paper, New York: Ernst & Young Centre for Business Innovation.

McKinstry, S. (1996) 'Designing the annual reports of Burton Plc from 1930 to 1994', *Accounting, Organizations and Society*, 21 (1), pp.89-111.

Meritum (2002) *Project to Meritum: Guidelines for Managing and Reporting on Intangibles*, Madrid.

Meyer, J. and Rowan, B. (1977) 'Institutional organizations: formal structure as myth and ceremony', *American Journal of Sociology*, 82, pp. 340-363.

Miles, M.B. and Huberman, A. M. (1994) *Qualitative data analysis: An expanded sourcebook*. Sage.

Miller, P. and Rose, N. (2008) *Governing the Present*. Cambridge: Polity Press.

- Mitchell, W.J.T. (1994) *Picture Theory*. Chicago: University of Chicago Press.
- MITR (2002), *Intellectual Capital Statements in Practice*, Copenhagen: Ministry of Information Technology and Research.
- Morgan, G. (1986) *Images of Organization*. Newbury Park: Sage Publications.
- Mouritsen, J., Larsen, H. T. and Bukh, P. N. D. (2001) 'Intellectual capital and the capable firm: narrating, visualizing and numbering for managing knowledge', *Accounting, Organizations and Society*, 26(7/8), pp. 735–762.
- Neu, D. (1991) 'Trust, impression management and the auditing profession', *Critical Perspectives on Accounting*, 2(4), pp. 295–313.
- Neu, D., Warsame, H. A. and Pedwell, K. A. (1998) 'Managing public impressions: Environmental disclosures in annual reports'. *Accounting, Organizations and Society*, 23(3), pp. 265–282.
- Nielsen, C., Bukh, P. N., Mouritsen, J., Johansen, M. R. and Gormsen, P. (2006) 'Intellectual capital statements on their way to the stock exchange: Analyzing new reporting system', *Journal of Intellectual Capital*, 7 (2), pp. 221-240.
- Nobes, C. and Parker, R. (2010) *Comparative international accounting* Eleventh Edition, England: Prentice Hall.
- Olsson, B. (2001) 'Annual reporting practices: Information about human resources in corporate annual reports in major Swedish companies', *Journal of Human Resource Costing and Accounting*, Vol. 6 No. 1, pp. 39-52.
- Papageorgiou, C. and Chmelarova, V. (2005) 'Nonlinearities in capital–skill complementarity', *Journal of Economic Growth*, 10, pp. 55–86.
- Peterson, MF. and Wood, RE. (2008) 'Cognitive structures and processes in cross-cultural management in Smith PB, Peterson MF, Thomas DC, editors' in *The handbook of crosscultural management research*. Los Angeles: Sage.
- Pfeffer, J. and Salancik, G. R. (1978) *The external control of organizations*. New York: Harper and Row.
- Pfeffer, J. (1981) 'Management as symbolic action: the creation and maintenance of organizational paradigm. In L. Cummings & B. Staw (Eds)' *Research in Organizational Behavior*, pp. 1-52.

Philip, G.M.C., Vergauwen and Frits J.C. van Alem (2005) 'Annual report IC disclosures in the Netherlands, France and Germany'. *Journal of Intellectual Capital*, 6(1), pp. 89-104.

Power, M. (1997). *The audit society, rituals of verification*. Oxford University Press.

Preston, A.M., Wright, C. and Young, J.J. (1996) 'Imag[in]ing annual reports', *Accounting, Organizations and Society*, 21(1), pp. 113-137.

Preston, A. M. and Young, J. J. (2000) 'Constructing the global corporation and corporate constructions of the global: a picture essay', *Accounting, Organizations and Society*, 25 (4), pp. 427-449.

Racine, N. (2002) *Visual communication*. New York: Learning Express.

Reich, B.B. (1991) *The Work of Nations*, New York: Alfred A. Knopf.

Rice, G.R. (1989) 'Capital–skill complementarity and the interregional distribution of human capital in US manufacturing', *Applied Economics*, 21, pp. 1087–1098.

Roos, J., Roos, G., Dragonetti, N.C. and Edvinsson, L. (1997) *Intellectual Capital: Navigating the New Business Landscape*. Macmillan, London.

Rorty, R.M. (1992) *The Linguistic Turn: Essays in Philosophical Method*, Chicago: University of Chicago Press.

Roslender, R. and Fincham, R. (2004) 'Intellectual Capital in the UK', *Accounting, Auditing & Accountability Journal*, 17 (2), pp. 178-209.

Roslender, R. and Fincham, R. (2001) 'Thinking critically about intellectual capital accounting', *Accounting, Auditing & Accountability*, 14 (4), pp.383-398.

Roslender, R. and Dyson, J.R. (1992) 'Accounting for the worth of employees: a new look at an old problem', *British Accounting Review*, 24(4), pp. 322-329.

Rylander, A., Jacobsen, K. and Roos, G. (2000) 'Towards improved disclosure on intellectual capital', *International Journal of Technology Management*, 20 (5/6/7/8), pp. 715–741.

Sanchez, M.P., Chaminade, C. and Olea, M. (2000) 'Management of intangibles: an attempt to build a theory', *Journal of Intellectual Capital*, 1(4), pp. 312-27.

Schlenker, B. R. (1980) *Impression management: The self-concept, social identity, and interpersonal relations*. Belmont: Brooks-Cole.

Senge, P. (1990) *The Fifth Discipline*, New York: Double Day/Currency.

Sianesi, B. and van Reenen, J. (2003) 'The returns to education: macroeconomics', *Journal of Economic Surveys*, 17, pp. 157–200.

Sikes, G. (1986) 'Art and Allegory', *Metropolis*, pp.31-32.

Singh, I., Mitchell, J.-L.W. and Zahn, V.d. (2007) 'Does intellectual capital disclosure reduce an IPO's cost of capital? The case of under-pricing', *Journal of Intellectual Capital*, 8(3), pp. 494-516.

Skaggs, B. C. and Youndt, M. (2004) 'Strategic Positioning, Human Capital, and Performance in Service Organizations: A Customer Interaction Approach', *Strategic Management Journal*, 25 (1), pp. 85-99.

Snell, S. A., James, W. and Dean, Jr. (1992) 'Integrated Manufacturing and Human Resource Management: A Human Capital Perspective', *The Academy of Management Journal*, 35 (3), pp. 467-504.

So, S. and Smith, M. (2002) 'Colour graphics and task complexity in multivariate decision making', *Accounting, Auditing & Accountability Journal*, 15(4), pp.565-593.

Sontag, S. (1971) *On Photography*. Penguin, New York, NY.

Stenkamp, N. (2007) 'Intellectual capital reporting in New Zealand: refining content analysis as a research method', unpublished PhD thesis. AUT University.

Stenkamp, N. Hooks, J. and Stewart, R. (2010) 'Interpreting pictorial messages of intellectual capital in company media', *Qualitative Research in Accounting & Management*, 7 (3), pp. 353 – 378.

Stewart, T. (1997) *Intellectual Capital*. New York: Double Day/Currency.

Striukova, L., Unerman, J. and Guthrie, J. (2008) 'Corporate reporting of intellectual capital: Evidence from UK companies', *The British Accounting Review*, 40, pp. 297-313.

Suchman, M. C. (1995) 'Managing legitimacy: Strategic and institutional approaches',

Academy of Management Review, 20, pp.571-610.

Sullivan, P.H. (2000) *Value-driven Intellectual Capital: How to Convert Intangible Corporate Assets into Market Value*, London: John Wiley and Sons.

Sveiby, K.E. (1988) *The new annual report* (translated from Swedish: Den Nya Arsredovisingen). <<http://www.sveiby.com.au>>.

Sveiby, K.E. (1997) *The New Organizational Wealth: Managing and Measuring Knowledge-Based Assets*. San Francisco: Berrett-Kohler.

Tai, W. S. and Chen, C. T. (2009) 'A new evaluation model for intellectual capital based on computing with linguistic variable', *Expert Systems with Applications*, 36 (2), pp.3483-3488.

Tayles, M., Pike, R. H. and Sofian S. (2007) 'Intellectual capital, management accounting practices and corporate performance: Perceptions of managers', *Accounting, Auditing & Accountability Journal* Vol. 20 No. 4, 2007 pp. 522-548.

Thompson, G.D. (1998) 'Cultural capital and accounting', *Accounting, Auditing and Accountability Journal* 12(4), pp. 394-412.

Tufte, E. R. (1983) *The visual display of quantitative information*. Cheshire, USA: Graphics Press.

Upton, W.S. (2001) *Business and Financial Reporting: Challenges from the New Economy*, special report, Financial Accounting Standards Board, Norwalk, CT.

Van der Meer-Kooistra, J. and Zijlstra, S. M. (2001) Reporting on Intellectual Capital. *Accounting Auditing and Accountability Journal*, 14(4), pp. 456-476.

Van deWalle, D. (2003) 'Are returns to investment lower for the poor? Human and physical capital interactions in rural Vietnam', *Review of Development Economics*, 7, pp. 636-653.

Vance, C. (2001) *Valuing Intangible*. Centre for Business Performance, Institute of Chartered Accountants in England and Wales.

Verganwen, P., Bollen, L. and Oirbans, E., (2007) 'Intellectual capital disclosure and intangible value drivers: an empirical study', *Management Decision*, 45(7), pp.1163-1180.

Vergauwen, P. and Van Alem, F. (2005) 'Annual report IC disclosures in The Netherlands, France and Germany', *Journal of Intellectual Capital*, 6 (1), pp. 89-104.

Volmer, F.G. (1992) 'Effect of graphical presentation on insights into a company's financial position: an innovative educational approach to communicating financial information in financial reporting', *Accounting Education* 1(2), pp. 151-170.

Wainer, H. (1996) 'Scaling the heights (and widths)', *Chance*, 9 (3), pp.43-49.

Watts, R.L. and Zimmerman, J.L. (1986) *Positive Accounting Theory*. Englewood Cliffs, NJ: Prentice-Hall.

White, G., Lee, A., and Tower, G. (2007) 'Drivers of voluntary intellectual capital disclosure in listed biotechnology companies', *Journal of Intellectual Capital*, 8 (3), pp. 517-537.

Williams, S. (2001) 'Is intellectual capital performance and disclosure practices related?', *Journal of Intellectual Capital*, 2 (3), pp. 192-203.

Wu, A. (2005) 'The integration between Balanced Scorecard and intellectual capital', *Journal of Intellectual Capital*, 6 (2), pp.267-284.

Yang, C. and Lin, C. (2009) 'Does intellectual capital mediate the relationship between HRM and organizational performance? Perspective of a healthcare industry in Taiwan', *The International Journal of Human Resource Management*, 20 (9), pp. 1965–1984.

Young, C., Su, H., Fang, S. R. and Fang, S.C. (2009) 'Cross-country comparison of intellectual capital performance of commercial banks in Asian economies', *The Service Industries Journal*, 29 (11), pp.1565-1579.

Zambon, S. (2003) 'Study on the measurement of intangible assets and associated reporting practices', Office Study prepared for the Commission of the European Communities, Enterprise Directorate General, Brussels.

Internet/ source:

<http://www.ingentaconnect.com/content/mcb/gm/2010/00000025/00000002/art00005>

http://www.oxforddictionaries.com/view/entry/m_en_gb0139190#m_en_gb0139190,

07-10-2010

http://www.oxforddictionaries.com/definition/graph?rskey=VdHQwD&result=1#m_e

n_gb0347050, 07-10-2010

<http://dictionary.cambridge.org/dictionary/british/symbol>, 20/10/2010

Oxford English Dictionary 2011

Cambridge English Dictionary 2011

Cambridge Advanced Learner's Dictionary (2011)

Collins English Dictionary 2011

Appendix 1: The categories and indicators of HIC

Categories	Indicators
<i>Structural capital</i>	
Top management	Board of directors Senior supervisor Governance committee members Senior managers
<i>Relational capital</i>	
Customers	Customer services Customer satisfaction Customer loyalty Customer trust Customer feedback Customer segment Customer named No. of Customers
<i>Human capital</i>	
Employees	Employee age Employee gender Employee education Employee training/learning Employee moral/attitude Employee relationship Employee welfare Employee safety Employee representation Research and development

Appendix 2: International standard paper sizes

A Series Formats		B Series Formats		C Series Formats	
4A0	1682 × 2378	-	-	-	-
2A0	1189 × 1682	-	-	-	-
A0	841 × 1189	B0	1000 × 1414	C0	917 × 1297
A1	594 × 841	B1	707 × 1000	C1	648 × 917
A2	420 × 594	B2	500 × 707	C2	458 × 648
A3	297 × 420	B3	353 × 500	C3	324 × 458
A4	210 × 297	B4	250 × 353	C4	229 × 324
A5	148 × 210	B5	176 × 250	C5	162 × 229
A6	105 × 148	B6	125 × 176	C6	114 × 162
A7	74 × 105	B7	88 × 125	C7	81 × 114
A8	52 × 74	B8	62 × 88	C8	57 × 81
A9	37 × 52	B9	44 × 62	C9	40 × 57
A10	26 × 37	B10	31 × 44	C10	28 × 40

(Source: <http://www.cl.cam.ac.uk/~mgk25/iso-paper.html>, Markus Kuhn (2006), last modified, 2006-05-02, Accessed time: 23-05-2010)

Appendix 3: List of 150 collected annual reports

50 UK organizations

UK organizations	Pages
Banking/Financial Services	
RBS	445
Standard Chartered	256
Barclays	288
HSBC	396
Nationwide	166
Allianz	42
Capital one	226
Santander	218
Lloyds	296
Thomson Reuters	150
Total	2483
Mean	248
Logistics	
British Airways	136
BAA	81
BAE systems	198
First Group	112
MAERSK	168
National Express	158
Network rail	120
Royal Mail	109
TNT	257
Transport for London	178
Total	1517
Mean	294
Energy	
Shell	192
Anglian Water	136
BP	272
Eon UK	150
National Grid	185
London Power network	28
Cairn Energy PLC	148
Scottish Power	16

SSE plc	156
Wood Group	124
Total	1407
Mean	140
IT/Telecom	
IBM	140
BT	180
Cisco system	84
Deloitte Technology	61
Hutchison Telecom	68
Ministry of defence	185
Oracle	140
Sky	119
Virgin media	243
Vodafone	148
Total	1368
Mean	137
Retail	
Boots	116
Highland group	83
HMV group	112
HRG	112
John Lewis Partnership	84
M&S	126
Morrison	92
Next	104
Sainsbury	114
Tesco	136
Total	1079
Mean	108

50 China A organizations and 50 China H organizations

50 China A organizations		Pages	50 China H organizations		Pages
Banking/Financial Services					
工商银行	ICBC	331	工商银行	ICBC	287
农业银行	ABC	292	农业银行	ABC	292
交通银行	BC	276	交通银行	BC	252
华夏银行		247	創興銀行		163
招商银行	CMB	353	招商银行	CMB	332
中国银行	BOC	332	中国银行	BOC	336

深圳发展银行	SDB	130	恒生銀行		261
中国平安	Ping An	282	中国平安	Ping An	238
中国人寿	CLIC	224	中国人寿	CLIC	196
中信银行	CNCB	369	中信银行	CNCB	248
Total		2836	Total		2605
Mean		284	Mean		261
Logistics					
中国国际航空 CCA.		252	中国国际航空 CCA.		172
中国东方航空 CES.		190	中国东方航空 CES.		212
中国南方航空 CSN.		216	中国南方航空 CSN.		150
中海集装箱运输		146	国泰航空(香港)CPA		104
大秦铁路股份有限公司		190	长荣航空(台湾)EVA		206
中远 Cosco		246	中远 Cosco		275
广深铁路股份有限公司		159	山东海丰国际航运集团		148
海南航空股份有限公司		184	中国外运		164
中海发展股份有限公司		149	中海发展股份有限公司		158
中国交通		190	中国交通		190
Total		1922	Total		1779
Mean		194	Mean		143
Energy					
上海电气集团股份有限公司		279	上海电气集团股份有限公司		173
华能国际电力股份有限公司		179	华能国际电力股份有限公司		104
中国南车		185	中国南车		185
申能股份有限公司		121	中国电力国际发展有限公司/		187
中国石油化工股份有限公司		206	中国石油化工股份有限公司		206
中国石油天然气集团公司		218	中国石油天然气集团公司		204
海尔集团		128	海尔集团		203
潍柴控股集团有限公司		148	潍柴控股集团有限公司		218
神华集团有限公司		259	神华集团有限公司		235
紫金矿业		233	紫金矿业		234
Total		1956	Total		1949
Mean		196	Mean		195
IT/Telecom					
华为技术有限公司		76	中國信息科技		113
中电广通股份有限公司		114	联想集团		137
TCL 集团		255	TCL 集团		172
中兴通讯		331	中兴通讯		331
恒生电子股份有限公司		114	中国电信		156
中国联通		172	中国联通		200
京东方		210	中國新電信		122
康佳		145	新利軟件		114
深赛格		112	直通電訊		86
青岛海信电器股份有限公司		102	神州数码		196

<u>Total</u>		<u>1631</u>	<u>Total</u>		<u>1627</u>
<u>Mean</u>		<u>163</u>	<u>Mean</u>		<u>163</u>
Retail					
上海汽车集团		172	慧聰網		119
厦门国贸集团股份有限公司.		150	北京京客隆商业集团		179
厦门建发股份有限公司		146	匹克体育用品有限公司		99
深圳一致药业		170	安捷利實業		96
国药控股国大药房有限公司		236	国药控股国大药房有限公司		236
无锡商业大厦大东方股份		67	亚伦国际集团有限公司		110
杭州解百集团股份有限公司		100	国美电器		199
永辉超市		131	敏华控股有限公司		109
百大集团		98	新世界百货中国有限公司		160
苏宁电器		220	特步国际控股有限公司		148
<u>Total</u>		<u>1490</u>	<u>Total</u>		<u>1455</u>
<u>Mean</u>		<u>149</u>	<u>Mean</u>		<u>146</u>

Appendix 4: Blank content analysis template samples

Part 1: Blank visual template sample

Table 1 the general summary of counted quantities

Counting Type	Category	Pictures			Graphs/ Charts	Total
		Photos	Non-photos	Mixed pictures		
Unit Counting	Visual					
	HIC					
Space Counting in page	Visual					
	HIC					

Table 2 Counting of pictures

Table 2.1 Counting of the subcategory of pure pictures

Counting	Category	Pure pictures						Total
		Pure pictures no caption			Pure pictures with caption			
		PP	PNP	PMP	PPC	PNPC	PMPC	
Unit	Visual							
	HIC							
Space counting in page	Visual							
	HIC							

Notes:

Table 2.2 Counting of the subcategory of pictures plus text/caption

Categ.	Inserted text/caption Pictures									Total
	Photos			Non-photos			Mixed pictures			
	IPWC	IPIC	IPOC	IPWC	IPIC	IPOC	IPWC	IPIC	IPOC	
Unit										
Visual										
Total										
ICHI										
Total										
Space										
Visual										
Total										
ICHI										
Total										

Notes of short names of Pictures:

- Pure photographs (PP)
- Pure non-photographs (PNP)
- Pure Mixed pictures (PMP)
- Pure photographs with caption (PPC)
- Pure non-photographs with caption (PNPC)

- Pure Mixed pictures (PMPC)
- Inserted words photograph without the caption (IPWC)
- inserted words photograph with inside caption (IPIC)
- inserted words photograph with outside caption (IPOC)

Table 3: Counting of subcategories of graph and chart

Counting type	Category	Graphs					Chart			Total
		P	B	L	C	O	D	M	O	
Unit	Visual									
	ICHI									
Space	Visual									
	ICHI									

ICHI Unit Counting

Table 6: Unit Counting of HIC Summary

IC \ Visual	Pictures			Total
	Photos	Non-photos	Mixed pictures	
Structure Capital Management				
Relational Capital: Customers				
Human Capital: Employees				
Mixture				
Others				
Total				

Table 6.1: Unit counting of subcategories of pure Picture of HIC

Visual IC	Pure Pictures						Total
	Pure pictures no caption			Pure pictures with caption			
	PP	PNP	PMP	PPC	PNPC	PMPC	
Structure Capital Management							
Relational Capital Customers							
Human Capital Employees							
Mixture							
Others							
Total: Unit							

Table 6.2: Unit counting of subcategories of visual picture text/caption on HIC

Visual IC	Pictures plus text/caption									Total
	Photographs			Non-photographs			Mixed pictures			
	IPWC	IPIC	IPOC	IPWC	IPIC	IPOC	IPWC	IPIC	IPOC	
Structure Capital Management										
Relational Capital Customers										
Human Capital Employees										
Mixture										
Others										
<u>Total</u>										

Table 7: Unit counting of subcategories of graph and chart of HIC

Visual IC	Graphs					Charts			Total
	Pie	Bar	Line	Circle	Others	Diagram	Map	Other	
Structure Capital Management									
Relational Capital Customers									
Human Capital Employees									
Mixture									
Others									
<u>Total</u>									

ICHI Space Counting

Table 6.3: Space Counting of HIC Summary

IC	Visual	Pictures			Total
		Photographs	Non-photographs	Mixed pictures	
Structure Capital					
Management					
Relational Capital					
Customers					
Human Capital					
Employees					
Mixture					
Others					
Total					

Table 6.4 Space counting of subcategories of pure visual of HIC

IC \ Visual	Pure Pictures						Total
	No caption			With caption			
	PP	PNP	PMP	PPC	PNPC	PMPC	
Structure Capital Management							
Relational Capital Customers							
Human Capital Employees							
Mixture							
Others							
Total:							

Notes for shorts

- **Pure photographs (PP)**
- **Pure non-photographs (PnP)**
- **Pure mixed pictures (PMP)**

Table 6.5: Space counting of subcategories of visual plus text/caption of pictures on HIC

IC	Visual	Pictures plus text/caption									Total
		Photographs			Non-photographs			Mixed pictures			
		IPW	IPI	IPOC	IPW	IPIC	IPOC	IPWC	IPIC	IPOC	
		C	C		C						
	Structure										
	Capital										
	Management										
	Relational										
	Capital										
	Customers										
	Human										
	Capital										
	Employees										
	Mixture										
	Others										

<u>Subtotal</u>										
<u>Total</u>										

Table 10: Space counting of subcategories of graph and chart of HIC

Visual IC	Graph					Chart			Total
	Pie	Bar	Line	Circle	Others	Diagram	Map	Others	
Structure									
Capital									
Management									
Relational									
Capital									
Customers									
Human									
Capital									
Employees									
Mixture									
Others									
<u>Total</u>									

Part 2: Blank portrait template sample

Portrait Code	Subcategory	UK firms		China H firms		China A firms	
		No.	%	N0.	%	No.	%
Physical	Gender:						
	Male						
	Female						
	Mixed group						
	Age:						
	Young (< 35)						
	Middle (35-50)						
	Old (50+)						
	Mixed						
	Unidentifiable						
Dress	Formal dress						
	Chinese dress						
	Casual dress						
	Uniform						
	Mixed						
Interpersonal	Body language:						
	smile						

	hand gesture						
	eye contact						
	Individual						
	Group						
Spatial	Office setting						
	Workplace (not office)						
	Special occasions						
	Work-related device						
	Table/chair/sofa						
	Processed background						
	Plain						

Appendix 5: Tables 7.1 TO 9.5

Table 7.1 – Analysis of HIC pictures into functions by country and industry sector measured by units of occurrence						
		Pictures			Total Pictures	Average unit of HIC data per page
		Photos	Non-photos	Mixed pictures		
Banking/Financial Services						
UK	Managers	143	0	0	143	0.38
	Customers	69	0	0	69	0.19
	Employees	88	0	0	88	0.24
	Mixed	17	0	0	17	0.05
	Others	52	0	3	55	0.15
	Total	369	0	3	372	
China H	Managers	208	0	0	208	0.76
	Customers	7	0	0	7	0.03
	Employees	26	0	0	26	0.09
	Mixed	11	0	0	11	0.04
	Others	22	0	0	22	0.08
	Total	274	0	0	274	
China A	Managers	123	0	0	123	0.73
	Customers	4	0	0	4	0.02
	Employees	22	0	0	22	0.13
	Mixed	4	0	0	4	0.02
	Others	16	0	0	16	0.09
	Total	169	0	0	169	
Logistics						
UK	Managers	147	1	0	148	0.48
	Customers	75	18	0	93	0.30
	Employees	64	0	0	64	0.21
	Mixed	2	1	0	3	0.01
	Others	3	0	0	3	0.01
	Total	291	20	0	311	
China H	Managers	14	0	3	17	0.37
	Customers	4	0	0	4	0.09
	Employees	23	0	2	25	0.54
	Mixed	0	0	0	0	0
	Others	0	0	0	0	0
	Total	41	0	5	46	
China A	Managers	4	0	0	4	100
	Customers	0	0	0	0	0
	Employees	0	0	0	0	0

	Mixed	0	0	0	0	0
	Others	0	0	0	0	0
	Total	4	0	0	4	
Energy						
UK	Managers	128	0	0	128	0.54
	Customers	5	4	0	9	0.04
	Employees	82	0	0	82	0.34
	Mixed	6	1	0	7	0.03
	Others	12	0	0	12	0.05
	Total	233	5	0	238	
China H	Managers	125	0	0	125	0.81
	Customers	4	2	1	7	0.05
	Employees	10	0	0	10	0.06
	Mixed	3	0	0	3	0.02
	Others	5	3	1	9	0.06
	Total	147	5	2	154	
China A	Managers	34	0	0	34	0.87
	Customers	0	0	0	0	0
	Employees	2	0	0	2	0.05
	Mixed	1	0	0	1	0.03
	Others	2	0	0	2	0.05
	Total	39	0	0	39	
IT/Telecom						
UK	Managers	70	0	0	70	0.42
	Customers	71	0	0	71	0.43
	Employees	17	0	0	17	0.10
	Mixed	3	0	0	3	0.02
	Others	5	0	0	5	0.03
	Total	166	0	0	166	
China H	Managers	96	0	0	96	0.50
	Customers	34	0	0	34	0.18
	Employees	44	0	0	44	0.23
	Mixed	6	0	0	6	0.03
	Others	10	0	0	10	0.05
	Total	190	1	0	191	
China A	Managers	21	0	0	21	0.43
	Customers	20	0	0	20	0.42
	Employees	4	0	0	4	0.08
	Mixed	0	0	0	0	0
	Others	4	0	0	4	0.08
	Total	49	0	0	49	
Retail						
UK	Managers	113	1	0	114	0.32
	Customers	87	0	0	87	0.25

	Employees	97	0	0	97	0.28
	Mixed	22	0	0	22	0.06
	Others	31	0	0	31	0.09
	Total	350	1	0	351	
China H	Managers	38	0	1	39	0.21
	Customers	59	3	10	72	0.40
	Employees	19	0	0	19	0.10
	Mixed	27	0	0	27	0.15
	Others	19	0	6	25	0.14
	Total	162	3	17	182	
China A	Managers	1	0	0	1	0.1
	Customers	1	0	0	1	0.1
	Employees	2	0	0	2	0.2
	Mixed	1	0	0	1	0.1
	Others	5	0	0	5	0.5
	Total	10	0	0	10	

Table 7.2 – Analysis of HIC pictures into functions by country and industry sector measured by units of space

		Pictures			Total pictures	Percentage of each human capital in totality
		Photos	Non-photos	Mixed pictures		
Banking/Financial Services						
UK	Managers	13	0	0	13	19
	Customers	25	0	0	25	37
	Employees	11	0	0	11	16
	Mixed	5	0	0	5	8
	Others	13	0	0.21	13	20
	Total	66	0	0.21	66	
China H	Managers	25	0	0	25	70
	Customers	0.65	0	0	0.65	2
	Employees	4	0	0	4	10
	Mixed	2	0	0	2	5
	Others	4	0	0	4	12
	Total	36	0	0	36	
China A	Managers	20	0	0	20	71
	Customers	0.43	0	0	0.43	2
	Employees	5	0	0	5	17
	Mixed	0.55	0	0	0.55	2
	Others	2	0	0	2	9
	Total	28	0	0	28	
Logistics						
UK	Managers	11	1	0	12	22
	Customers	20	1	0	21	40
	Employees	17	0	0	17	32
	Mixed	0.75	0.03	0	0.78	1
	Others	3	0	0	3	5
	Total	51	2	0	54	
China H	Managers	4	0	2	6	50
	Customers	0.32	0	0	0.32	3
	Employees	5	0	0.36	6	48
	Mixed	0	0	0	0	0
	Others	0	0	0	0	0
	Total	9	0	2	11	
China A	Managers	0.40	0	0	0.40	100
	Customers	0	0	0	0	0
	Employees	0	0	0	0	0
	Mixed	0	0	0	0	0

	Others	0	0	0	0	0
	Total	0.40	0	0	0.40	0
Energy						
UK	Managers	8	0	0	8	22
	Customers	1	0.08	0	2	4
	Employees	24	0	0	24	67
	Mixed	2	0.08	0	2	6
	Others	0.50	0	0	0.50	1
	Total	37	0.16	0	37	
China H	Managers	9	0	0	9	50
	Customers	3	0	0.54	3	17
	Employees	3	0	0	3	17
	Mixed	1	0	0	1	7
	Others	0.46	1	0.12	2	9
	Total	17	1	0.66	18	
China A	Managers	2	0	0	2	59
	Customers	0	0	0	0	0
	Employees	0.09	0	0	0.09	3
	Mixed	1	0	0	1	33
	Others	0.14	0	0	0.14	5
	Total	3	0	0	3	
IT/Telecom						
UK	Managers	6	0	0	6	23
	Customers	12	0	0	12	44
	Employees	5	0	0	5	20
	Mixed	2	0	0	2	8
	Others	1	0	0	1	5
	Total	26	0	0	26	
China H	Managers	9	0	0	9	28
	Customers	14	0	0	14	42
	Employees	7	0	0	7	22
	Mixed	0.72	0	0	0.72	2
	Others	2	0	0	2	5
	Total	33	0	0	33	
China A	Managers	1	0	0	1	15
	Customers	6	0	0	6	76
	Employees	0.27	0	0	0.27	3
	Mixed	0	0	0	0	0
	Others	0.51	0	0	0.51	6
	Total	8	0	0	8	
Retail						
UK	Managers	11	0.05	0	11	22
	Customers	19	0	0	19	40
	Employees	11	0	0	11	22

	Mixed	2	0	0	2	3
	Others	7	0	0	7	14
	Total	49	0.05	0	49	
China H	Managers	6	0	1	7	16
	Customers	17	1	4	22	49
	Employees	3	0	0	3	6
	Mixed	3	0	0	3	77
	Others	7	0	3	10	21
	Total	36	2	6	44	
China A	Managers	0.66	0	0	0.66	11
	Customers	0.34	0	0	0.34	5
	Employees	0.21	0	0	0.21	3
	Mixed	0.02	0	0	0.02	0.32
	Others	5	0	0	5	80
	Total	6	0	0	6	

Table 7.3 – Breakdown of HIC pure pictures into functions by country and industry sector by units of occurrence								
		Without caption			With caption			Total
		Photos	Non-Photos	Mixed pictures	Photos	Non-photos	Mixed pictures	
Banking/Financial Services								
UK	Managers	4	0	0	121	0	0	125
	Customers	17	0	0	32	0	0	49
	Employees	34	0	0	31	0	0	65
	Mixed	3	0	0	5	0	0	8
	Others	4	0	0	18	0	0	22
	Total	62	0	0	207	0	0	269
China H	Managers	2	0	0	166	0	0	168
	Customers	1	0	0	0	0	0	1
	Employees	5	0	0	3	0	0	8
	Mixed	1	0	0	1	0	0	2
	Others	3	0	0	3	0	0	6
	Total	12	0	0	173	0	0	185
China A	Managers	1	0	0	104	0	0	105
	Customers	1	0	0	0	0	0	1
	Employees	3	0	0	3	0	0	6
	Mixed	0	0	0	0	0	0	0
	Others	2	0	0	3	0	0	5
	Total	7	0	0	110	0	0	117
Logistics								
UK	Managers	0	0	0	144	0	0	144
	Customers	31	0	0	15	16	0	62
	Employees	13	0	0	28	0	0	41
	Mixed	2	0	0	0	1	0	3
	Others	2	0	0	1	0	0	3
	Total	48	0	0	173	17	0	253
China H	Managers	2	0	0	4	0	0	6
	Customers	2	0	0	0	0	0	2
	Employees	9	0	2	4	0	0	15
	Mixed	0	0	0	0	0	0	0
	Others	0	0	0	0	0	0	0
	Total	13	0	2	8	0	0	23
China A	Managers	1	0	0	3	0	0	4
	Customers	0	0	0	0	0	0	0
	Employees	0	0	0	0	0	0	0
	Mixed	0	0	0	0	0	0	0
	Others	0	0	0	0	0	0	0

	Total	1	0	0	3	0	0	4
Energy								
UK	Managers	53	0	0	70	0	0	123
	Customers	1	0	0	3	4	0	8
	Employees	10	0	0	45	0	0	55
	Mixed	1	0	0	2	1	0	4
	Others	5	0	0	3	0	0	8
	Total	70	0	0	123	5	0	198
China H	Managers	35	0	0	87	0	0	122
	Customers	1	2	1	1	0	0	5
	Employees	7	0	0	1	0	0	8
	Mixed	0	0	0	0	0	0	0
	Others	1	0	1	1	3	0	6
	Total	44	2	2	90	3	0	141
China A	Managers	0	0	0	34	0	0	34
	Customers	0	0	0	0	0	0	0
	Employees	2	0	0	0	0	0	2
	Mixed	0	0	0	0	0	0	0
	Others	1	0	0	0	0	0	1
	Total	3	0	0	34	0	0	37
IT/Telecom								
UK	Managers	16	0	0	53	0	0	69
	Customers	19	0	0	47	0	0	66
	Employees	4	0	0	11	0	0	15
	Mixed	0	0	0	3	0	0	3
	Others	0	0	0	2	0	0	2
	Total	39	0	0	116	0	0	155
China H	Managers	16	0	0	70	0	0	86
	Customers	10	0	0	20	0	0	30
	Employees	3	0	0	31	0	0	34
	Mixed	0	0	0	0	0	0	0
	Others	0	0	0	1	0	0	1
	Total	29	0	0	122	0	0	151
China A	Managers	0	0	0	21	0	0	21
	Customers	14	0	0	5	0	0	19
	Employees	3	0	0	0	0	0	3
	Mixed	0	0	0	0	0	0	0
	Others	1	0	0	0	0	0	1
	Total	18	0	0	26	0	0	44
Retail								
UK	Managers	9	0	0	102	1	0	112
	Customers	7	0	0	46	0	0	53
	Employees	8	0	0	35	0	0	43

	Mixed	1	0	0	8	0	0	9
	Others	6	0	0	12	0	0	18
	Total	31	0	0	203	1	0	235
China H	Managers	14	0	0	19	0	1	34
	Customers	10	1	0	20	2	4	37
	Employees	7	0	0	2	0	0	9
	Mixed	1	0	0	0	0	0	1
	Others	8	0	0	6	0	0	14
	Total	40	1	0	47	2	5	95
China A	Managers	1	0	0	0	0	0	1
	Customers	1	0	0	0	0	0	1
	Employees	1	0	0	1	0	0	2
	Mixed	0	0	0	0	0	0	0
	Others	3	0	0	2	0	0	5
	Total	6	0	0	3	0	0	9

Table 7.4 – Analysis of HIC pure pictures into functions by country and industry sector measured in units of space								
		Without caption			With caption			Total
		Photos	Non-photos	Mixed pictures	Photos	Non-photos	Mixed pictures	
Banking/Financial Services								
UK	Managers	0.16	0	0	10	0	0	10
	Customers	9	0	0	9	0	0	18
	Employees	5	0	0	2	0	0	7
	Mixed	0.91	0	0	1	0	0	2
	Others	0.57	0	0	5	0	0	5
	Total	16	0	0	27	0	0	43
China H	Managers	1	0	0	16	0	0	17
	Customers	0.12	0	0	0	0	0	0.12
	Employees	0.74	0	0	0.38	0	0	1
	Mixed	0.22	0	0	0.14	0	0	0.36
	Others	0.25	0	0	0.84	0	0	1
	Total	2	0	0	18	0	0	20
China A	Managers	1	0	0	11	0	0	12
	Customers	0.12	0	0	0	0	0	0.12
	Employees	0.25	0	0	0.46	0	0	0.71
	Mixed	0	0	0	0	0	0	0
	Others	0.14	0	0	0.20	0	0	0.34
	Total	2	0	0	12	0	0	13
Logistics								
UK	Managers	0	0	0	9	0	0	9
	Customers	4	0	0	3	0.82	0	8
	Employees	3	0	0	6	0	0	9
	Mixed	0.75	0	0	0	0.03	0	0.78
	Others	2	0	0	0.81	0	0	3
	Total	10	0	0	17	0.85	0	30
China H	Managers	0.32	0	0	0.75	0	0	1
	Customers	0.16	0	0	0	0	0	0.16
	Employees	3	0	0.36	1	0	0	4
	Mixed	0	0	0	0	0	0	0
	Others	0	0	0	0	0	0	0
	Total	3	0	0.36	2	0	0	5
China A	Managers	0.22	0	0	0.18	0	0	0.40
	Customers	0	0	0	0	0	0	0
	Employees	0	0	0	0	0	0	0
	Mixed	0	0	0	0	0	0	0
	Others	0	0	0	0	0	0	0
	Total	0.22	0	0	0.18	0	0	0.40

Energy								
UK	Managers	3	0	0	4	0	0	7
	Customers	0.31	0	0	1	0.08	0	2
	Employees	1	0	0	14	0	0	15
	Mixed	0.11	0	0	0.66	0.08	0	1
	Others	0.21	0	0	0.16	0	0	0.37
	Total	5	0	0	20	0.16	0	25
China H	Managers	1	0	0	7	0	0	8
	Customers	1	0	0.54	0.5	0	0	2
	Employees	2	0	0	1	0	0	3
	Mixed	0	0	0	0	0	0	0
	Others	0.1	0	0.12	0.11	1	0	1
	Total	5	0	0.66	9	1	0	15
China A	Managers	0	0	0	2	0	0	2
	Customers	0	0	0	0	0	0	0
	Employees	0.09	0	0	0	0	0	0.09
	Mixed	0	0	0	0	0	0	0
	Others	0.1	0	0	0	0	0	0.1
	Total	0.19	0	0	2	0	0	2
IT/Telecom								
UK	Managers	2	0	0	4	0	0	6
	Customers	8	0	0	3	0	0	11
	Employees	0.64	0	0	4	0	0	5
	Mixed	0	0	0	2	0	0	2
	Others	0	0	0	1	0	0	1
	Total	10	0	0	14	0	0	24
China H	Managers	1	0	0	7	0	0	8
	Customers	9	0	0	5	0	0	14
	Employees	0.07	0	0	6	0	0	6
	Mixed	0	0	0	0	0	0	0
	Others	0	0	0	1	0	0	1
	Total	10	0	0	18	0	0	28
China A	Managers	0	0	0	1	0	0	1
	Customers	6	0	0	0.14	0	0	6
	Employees	0.16	0	0	0	0	0	0.16
	Mixed	0	0	0	0	0	0	0
	Others	0.11	0	0	0	0	0	0.11
	Total	7	0	0	1	0	0	8
Retail								
UK	Managers	0.66	0	0	10	0.05	0	11
	Customers	2	0	0	11	0	0	13
	Employees	0.40	0	0	2	0	0	2
	Mixed	0.05	0	0	0.72	0	0	0.77
	Others	0.90	0	0	3	0	0	4

	Total	4	0	0	26	0.05	0	30
China H	Managers	2	0	0	2	0	1	5
	Customers	4	0.23	0	6	1	2	13
	Employees	2	0	0	0.10	0	0	2
	Mixed	0.11	0	0	0	0	0	0.11
	Others	4	0	0	2	0	0.06	6
	Total	11	0.23	0	11	1	3	26
China A	Managers	0.66	0	0	0	0	0	0.66
	Customers	0.34	0	0	0	0	0	0.34
	Employees	0.16	0	0	0.05	0	0	0.21
	Mixed	0	0	0	0	0	0	0
	Others	3	0	0	2	0	0	5
	Total	4	0	0	2	0	0	6

Table 7.5 – Analysis of HIC inserted pictures into functions by country and industry sector measured in units of counting

	Photos			Non-photos			Mixed pictures			Total
	IPWC	IPIC	IPOC	IPWC	IPIC	IPOC	IPWC	IPIC	IPOC	
Banking/Financial Services										
UK										
Managers	7	0	11	0	0	0	0	0	0	
Subtotal		18			0			0		18
Customers	9	2	9	0	0	0	0	0	0	
Subtotal		20			0			0		20
Employees	7	0	16	0	0	0	0	0	0	
Subtotal		23			0			0		23
Mixed	7	0	2	0	0	0	0	0	0	
Subtotal		9			0			0		9
Others	11	0	19	0	0	0	3	0	0	
Subtotal		30			0			3		33
Total	41	2	57	0	0	0	3	0	0	
Subtotal		100			0			3		103
China H										
Managers	23	3	14	0	0	0	0	0	0	
Subtotal		40			0			0		40
Customers	3	0	3	0	0	0	0	0	0	
Subtotal		6			0			0		6
Employees	5	0	13	0	0	0	0	0	0	
Subtotal		18			0			0		18
Mixed	5	0	4	0	0	0	0	0	0	
Subtotal		9			0			0		9
Others	5	0	11	0	0	0	0	0	0	
Subtotal		16			0			0		16
Total	41	3	45	0	0	0	0	0	0	
Subtotal		89			0			0		89
China A										
Managers	1	4	13	0	0	0	0	0	0	
Subtotal		18			0			0		18
Customers	2	0	1	0	0	0	0	0	0	
Subtotal		3			0			0		3
Employees	4	1	11	0	0	0	0	0	0	
Subtotal		16			0			0		16
Mixed	3	0	1	0	0	0	0	0	0	
Subtotal		4			0			0		4
Others	3	0	8	0	0	0	0	0	0	
Subtotal		11			0			0		11

Total	13	5	34	0	0	0	0	0	0	
Subtotal		52			0			0		52
Logistics										
UK										
Managers	0	1	2	0	1	0	0	0	0	
Subtotal		3			1			0		4
Customers	13	1	15	0	0	2	0	0	0	
Subtotal		29			2			0		31
Employees	10	1	12	0	0	0	0	0	0	
Subtotal		23			0			0		23
Mixed	0	0	0	0	0	0	0	0	0	
Subtotal		0			0			0		0
Others	0	0	0	0	0	0	0	0	0	
Subtotal		0			0			0		0
Total	23	3	29	0	1	2	0	0	0	
Subtotal		55			3			0		58
China H										
Managers	2	1	5	0	0	0	1	0	2	
Subtotal		8			0			3		11
Customers	2	0	0	0	0	0	0	0	0	
Subtotal		2			0			0		2
Employees	7	0	3	0	0	0	0	0	0	
Subtotal		10			0			0		10
Mixed	0	0	0	0	0	0	0	0	0	
Subtotal		0			0			0		0
Others	0	0	0	0	0	0	0	0	0	
Subtotal		0			0			0		0
Total	11	1	8	0	0	0	2	1	2	
Subtotal		20			0			5		25
China A										
Managers	0	0	0	0	0	0	0	0	0	0
Customers	0	0	0	0	0	0	0	0	0	0
Employees	0	0	0	0	0	0	0	0	0	0
Mixed	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Energy										
UK										
Managers	1	2	2	0	0	0	0	0	0	
Subtotal		5			0			0		5
Customers	1	0	0	0	0	0	0	0	0	
Subtotal		1			0			0		1
Employees	3	11	13	0	0	0	0	0	0	
Subtotal		27			0			0		27
Others	1	0	2	0	0	0	0	0	0	
Subtotal		3			0			0		3

Mixed	0	4	0	0	0	0	0	0	0	4
Subtotal	6	4 17	17	0	0 0	0	0	0 0	0	4 40
Others		40			0			0		40
Subtotal										
Total										
Subtotal										
China H										
Managers	2	1	0	0	0	0	0	0	0	3
Subtotal		3			0			0		3
Customers	1	0	1	0	0	0	0	0	0	2
Subtotal		2			0			0		2
Employees	0	2	0	0	0	0	0	0	0	2
Subtotal		2			0			0		2
Mixed	0	1	2	0	0	0	0	0	0	3
Subtotal		3			0			0		3
Others	2	0	1	0	0	0	0	0	0	3
Subtotal		3			0			0		3
Total	5	4	4	0	0	0	0	0	0	13
Subtotal		13			0			0		13
China A										
Managers	0	0	0	0	0	0	0	0	0	0
Subtotal		0			0			0		0
Customers	0	0	0	0	0	0	0	0	0	0
Subtotal		0			0			0		0
Employees	0	0	0	0	0	0	0	0	0	0
Subtotal		0			0			0		0
Mixed	0	1	0	0	0	0	0	0	0	1
Subtotal		1			0			0		1
Others	1	0	0	0	0	0	0	0	0	1
Subtotal		1			0			0		1
Total	1	1	0	0	0	0	0	0	0	2
Subtotal		2			0			0		2
IT/Telecom										
UK										
Managers										
Subtotal	0	0	1	0	0	0	0	0	0	1
Customers		1			0			0		1
Subtotal	2	0	3	0	0	0	0	0	0	5
Employees		5			0			0		5
Subtotal	0	1	1	0	0	0	0	0	0	2
Mixed		2			0			0		2
Subtotal	0	0	0	0	0	0	0	0	0	0
Others		0			0			0		0
Subtotal	1	1	1	0	0	0	0	0	0	0

Total		3			0			0		3
Subtotal	3	2	6	0	0	0	0	0	0	11
China H										
Managers	3	0	7	0	0	0	0	0	0	
Subtotal		10			0			0		10
Customers	0	2	2	0	0	0	0	0	0	
Subtotal		4			0			0		4
Employees	3	0	7	0	0	0	0	0	0	
Subtotal		10			0			0		10
Mixed	1	0	5	0	0	0	0	0	0	
Subtotal		6			0			0		6
Others	1	1	7	0	0	0	0	0	0	
Subtotal		9			0			0		9
Total	8	3	28	0	0	0	0	0	0	
Subtotal		39			0			0		39
China A										
Managers	0	0	0	0	0	0	0	0	0	
Subtotal		0			0			0		0
Customers	1	0	0	0	0	0	0	0	0	
Subtotal		1			0			0		1
Employees	1	0	0	0	0	0	0	0	0	
Subtotal		1			0			0		1
Mixed	0	0	0	0	0	0	0	0	0	
Subtotal		0			0			0		0
Others	2	1	0	0	0	0	0	0	0	
Subtotal		3			0			0		3
Total	4	1	0	0	0	0	0	0	0	
Subtotal		5			0			0		5
Retail										
UK										
Managers	0	0	2	0	0	0	0	0	0	
Subtotal		2			0			0		2
Customers	4	3	27	0	0	0	0	0	0	
Subtotal		34			0			0		34
Employees	8	3	43	0	0	0	0	0	0	
Subtotal		54			0			0		54
Mixed	3	0	10	0	0	0	0	0	0	
Subtotal		13			0			0		13
Others	6	0	7	0	0	0	0	0	0	
Subtotal		13			0			0		13
Total	21	6	89	0	0	0	0	0	0	
Subtotal		116			0			0		116
China H										

Managers	0	1	4	0	0	0	0	0	0	
Subtotal		5			0			0		5
Customers	4	9	16	0	0	0	1	4	1	
Subtotal		29			0			6		35
Employees	3	1	6	0	0	0	0	0	0	
Subtotal		10			0			0		10
Mixed	17	0	9	0	0	0	0	0	0	
Subtotal		26			0			0		26
Others	0	0	5	0	0	0	1	0	5	
Subtotal		5			0			6		11
Total	24	11	40	0	0	0	2	4	6	
Subtotal		75			0			12		87
China A										
Managers	0	0	0	0	0	0	0	0	0	
Subtotal		0			0			0		0
Customers	0	0	0	0	0	0	0	0	0	
Subtotal		0			0			0		0
Employees	0	0	0	0	0	0	0	0	0	
Subtotal		0			0			0		0
Mixed	0	0	1	0	0	0	0	0	0	
Subtotal		1			0			0		1
Others	0	0	0	0	0	0	0	0	0	
Subtotal		0			0			0		0
Total	0	0	1	0	0	0	0	0	0	
Subtotal		1			0			0		1

Table 7.6: Analysis of HIC inserted pictures into functions by country and industry sector measured by units of space

	Photos			Non-photos			Mixed pictures			Total
	IPWC	IPIC	IPOC	IPWC	IPIC	IPOC	IPWC	IPIC	IPOC	
Banking/Financial Services										
UK										
Managers	0.66	0	2	0	0	0	0	0	0	
Subtotal	3			0			0			3
Customers	5	0.83	0.93	0	0	0	0	0	0	
Subtotal	6			0			0			6
Employees	0.55	0	3	0	0	0	0	0	0	
Subtotal	3			0			0			3
Mixed	2	0	1	0	0	0	0	0	0	
Subtotal	3			0			0			3
Others	3	0	4		0	0	0.21	0	0	
Subtotal	7			0			0.21			7
Total	11	0.83	12	0	0	0	0.21	0	0	
Overall	24			0			0.21			24
China H										
Managers	3	2	3	0	0	0	0	0	0	
Subtotal	8			0			0			8
Customers	0.5	0	0.03	0	0	0	0	0	0	
Subtotal	0.53			0			0			0.53
Employees	1	0	2	0	0	0	0	0	0	
Subtotal	3			0			0			2
Mixed	1	0	0.56	0	0	0	0	0	0	
Subtotal	2			0			0			2
Others	2	0	2	0	0	0	0	0	0	
Subtotal	4			0			0			4
Total	7	2	7	0	0	0	0	0	0	
Overall	16			0			0			16
China A										
Managers	1	4	3	0	0	0	0	0	0	
Subtotal	8			0			0			8
Customers	0.28	0	0.03	0	0	0	0	0	0	
Subtotal	0.31			0			0			0.31
Employees	2	1	1	0	0	0	0	0	0	
Subtotal	4			0			0			4
Mixed	0.48	0	0.07	0	0	0	0	0	0	
Subtotal	0.55			0			0			0.55
Others	1	0	0.89	0	0	0	0	0	0	
Subtotal	2			0			0			2

Total	4	5	5	0	0	0	0	0	0	
Overall	14			0			0			14
Logistics										
UK										
Managers	0	1	1	0	1	0	0	0	0	
Subtotal	2			1			0			3
Customers	6	1	6	0	0	0.22	0	0	0	
Subtotal	13			0.22			0			13
Employees	3	1	4	0	0	0	0	0	0	
Subtotal	8			0			0			8
Mixed	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Others	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Total	8	3	11	0	1	0.22	0	0	0	
Overall	22			1			0			23
China H										
Managers	1	1	0.75	0	0	0	0.5	0	1	
Subtotal	3			0			2			5
Customers	0.16	0	0	0	0	0	0	0	0	
Subtotal	0.16			0			0			0.16
Employees	1	0	0.39	0	0	0	0	0	0	
Subtotal	2			0			0			6
Mixed	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Others	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Total	2	1	1	0	0	0	0.5	0	1	
Overall	4			0			2			6
China A										
Managers	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Customers	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Employees	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Mixed	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Others	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Total	0	0	0	0	0	0	0	0	0	
Overall	0			0			0			0
Energy										

UK										
Managers	0.05	0.05	0.16	0	0	0	0	0	0	
Subtotal	0.26			0			0			0.26
Customers	0.06	0	0	0	0	0	0	0	0	
Subtotal	0.06			0			0			0.06
Employees	0.78	5	2	0	0	0	0	0	0	
Subtotal	7			0			0			7
Mixed	0.11	0	0.39	0	0	0	0	0	0	
Subtotal	0.5			0			0			0.5
Others	0	0.13	0	0	0	0	0	0	0	
Subtotal	0.13			0			0			0.13
Total	1	5	2	0	0	0	0	0	0	
Overall	8			0			0			8
China H										
Managers	0.08	0.67	0	0	0	0	0	0	0	
Subtotal	0.75			0			0			0.75
Customers	0.5	0	0.47	0	0	0	0	0	0	
Subtotal	0.97			0			0			0.97
Employees	0	0.22	0	0	0	0	0	0	0	
Subtotal	0.22			0			0			0.22
Mixed	0	1	0.22	0	0	0	0	0	0	
Subtotal	1			0			0			1
Others	0.14	0	0.11	0	0	0	0	0	0	
Subtotal	0.25			0			0			0.25
Total	0.72	2	0.8	0	0	0	0	0	0	
Overall	3			0			0			3
China A										
Managers	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Customers	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Employees	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Mixed	0	1	0	0	0	0	0	0	0	
Subtotal	1			0			0			1
Others	0.04	0	0	0	0	0	0	0	0	
Subtotal	0.04			0			0			0.04
Total	0.04	1	0	0	0	0	0	0	0	
Overall	1			0			0			1
IT/Telecom										
UK										
Managers	0	0	0.04	0	0	0	0	0	0	
Subtotal	0.04			0			0			0.04

Customers	0.41	0	0.83	0	0	0	0	0	0	
Subtotal	1			0			0			1
Employees	0	1	0.11	0	0	0	0	0	0	
Subtotal	1.1			0			0			1
Mixed	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Others	0.02	0.05	0.05	0	0	0	0	0	0	
Subtotal	0.12			0			0			0.12
Total	0.43	1	1	0	0	0	0	0	0	
Overall	3			0			0			3
China H										
Managers	0.22	0	0.72	0	0	0	0	0	0	
Subtotal	0.94			0			0			0.94
Customers	0	0.22	0.22	0	0	0	0	0	0	
Subtotal	0.44			0			0			0.44
Employees	0.3	0	0.54	0	0	0	0	0	0	
Subtotal	0.84			0			0			0.84
Mixed	0.11	0	0.61	0	0	0	0	0	0	
Subtotal	0.72			0			0			0.72
Others	0.06	0.18	0.54	0	0	0	0	0	0	
Subtotal	0.78			0			0			0.78
Total	0.72	0.4	3	0	0	0	0	0	0	
Overall	4			0			0			4
China A										
Managers	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Customers	0.11	0	0	0	0	0	0	0	0	
Subtotal	0.11			0			0			0.11
Employees	0.11	0	0	0	0	0	0	0	0	
Subtotal	0.11			0			0			0.11
Mixed	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Others	0.22	0.18	0	0	0	0	0	0	0	
Subtotal	0.4			0			0			0.4
Total	0.44	0.18	0	0	0	0	0	0	0	
Overall	0.62			0			0			0.62
Retail										
UK										
Managers	0	0	0.1	0	0	0	0	0	0	
Subtotal	0.1			0			0			0.1
Customers	0.33	3	4	0	0	0	0	0	0	
Subtotal	7			0			0			7
Employees	0.45	2	5	0	0	0	0	0	0	

Subtotal	8			0			0			8
Mixed	0.28	0	0.47	0	0	0	0	0	0	
Subtotal	0.75			0			0			0.75
Others	0.12	0	3	0	0	0	0	0	0	
Subtotal	3			0			0			3
Total	1	5	13	0	0	0	0	0	0	
Overall	19			0			0			19
China H										
Managers	0	0.66	1	0	0	0	0	0	0	
Subtotal	2			0			0			2
Customers	0.46	4	2	0	0	0	0.38	1	0.38	
Subtotal	6			0			2			8
Employees	0.27	0.04	0.78	0	0	0	0	0	0	
Subtotal	1			0			0			1
Mixed	2	0	1	0	0	0	0	0	0	
Subtotal	3			0			0			3
Others	0	0	0.84	0	0	0	1	0	2	
Subtotal	0.84			0			3			3
Total	3	4	6	0	0	0	1	1	2	
Overall	13			0			4			17
China A										
Managers	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Customers	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Employees	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Mixed	0	0	0.02	0	0	0	0	0	0	
Subtotal	0.02			0			0			0.02
Others	0	0	0	0	0	0	0	0	0	
Subtotal	0			0			0			0
Total	0	0	0.02	0	0	0	0	0	0	
Overall	0.02			0			0			0.02

Table 8 Overall portrait data analysis

Table 8.2: Analysis of structural capital (management) portraits by country and by code (physical, dress, interpersonal and spatial)

Portrait Code		Subcategory	UK firms		China H firms		China A firms	
			No.	%	No.	%	No.	%
Physical	Gender	Male	462	81.20	356	85.99	164	89.62
		Female	76	13.36	37	8.94	12	6.56
		Mixed group	31	5.44	21	5.07	7	3.82
	Age	Young (< 35)	0	0	4	0.9	0	0
		Middle(35-50)	112	20.07	144	33.26	120	65.57
		Old (50+)	430	77.01	261	60.28	61	33.33
		Mixed	15	2.69	21	4.85	2	1.1
		Unidentifiable	1	0.23	3	0.71	0	0
	Dress		Formal dress	521	96.84	394	99.49	188
Chinese dress			0	0	0	0	0	0
Casual dress			4	0.7	2	0.51	0	0
Uniform			10	1.76	0	0	0	0
Mixed			3	0.7	0	0	0	0
Interpersonal	Body language	smile	425	26.71	311	23.72	133	25
		hand gesture	81	5.09	81	6.18	29	5.45
		eye contact	523	32.87	456	34.78	182	34.21
	Individual		512	32.18	427	32.57	175	32.89
	Group		50	3.15	36	2.75	13	2.45
Spatial	Office settings		95	16.87	6	1.74	1	0.5
	Workplaces (non office)		25	4.44	2	0.5	1	0.5
	Special occasions		24	4.26	31	8.99	13	6.84
	Work related devices		0	0	0	0	0	0
	Tables/chairs/sofas		25	4.44	10	2.90	8	4.21
	Processed backgrounds		7	1.24	71	20.58	2	1.05

	Plain backgrounds	387	68.75	225	65.29	165	86.9
--	-------------------	-----	-------	-----	-------	-----	------

Table 8.3: Analysis of relationship capital (customers) portraits by country and by code (physical, dress, interpersonal, and spatial)

Portrait Code	Subcategory		UK firms		China H firms		China A firms	
			No.	%	No.	%	No.	%
Physical	Gender	Male	73	26.07	75	50.33	7	33.33
		Female	122	43.57	38	25.50	8	38.09
		Mixed group	85	30.46	36	24.17	6	28.58
	Age	Young (< 35)	134	47.35	73	48.99	12	57.14
		Middle (35-50)	62	21.90	21	14.09	6	28.57
		Old (50+)	18	6.36	28	18.79	0	0
		Mixed	62	21.91	25	16.77	3	14.29
		Unidentifiable	7	2.48	2	1.37	0	0
	Dress	Formal dress	40	18.52	47	32.41	4	19.05
Chinese dress		0	0	3	2.06	0	0	
Casual dress		148	68.52	58	40	17	80.95	
Uniform		9	4.16	34	23.45	0	0	
Mixed		19	8.8	3	2.06	0	0	
Interpersonal	Body language	Smiles	131	18.17	79	21.53	18	33.33
		Hand gestures	187	25.94	95	25.89	21	38.89
		Eye contact	109	15.12	62	16.89	4	7.41
	Individual		115	15.95	72	19.62	0	0
	Group		179	24.82	59	16.07	11	20.37
Spatial	Office settings		0	0	0	0	0	0
	Workplaces (not office)		7	2.46	2	1.26	0	0
	Special occasions		193	67.96	63	39.62	15	65.22
	Work-related devices		7	2.46	1	0.6	1	4.35
	Tables/chairs/sofas		28	9.86	9	5.66	1	4.35
	Processed backgrounds		10	3.52	32	20.13	2	8.70

	Plain backgrounds	39	13.74	52	32.73	4	17.38
--	-------------------	----	-------	----	-------	---	-------

Table 8.4: Analysis of human capital (employees) portraits by country and by code (physical, dress, interpersonal and spatial)

Portrait Code	Subcategory		UK firms		China H firms		China A firms	
			No.	%	No.	%	No.	%
Physical	Gender	Male	141	43.93	34	32.08	9	26.47
		Female	92	28.66	27	25	10	29.41
		Mixed group	88	27.41	45	42.92	15	44.12
	Age	Young(< 35)	115	35.71	46	42.20	20	60.61
		Middle(35-50)	154	47.83	24	22.02	9	27.27
		Old (50+)	17	5.28	1	0.9	0	0
		Mixed	23	7.14	30	27.52	4	12.12
		Unidentifiable	13	4.04	8	7.36	0	0
Dress	Formal dress	135	42.86	29	27.36	23	67.65	
	Chinese dress	0	0	1	0.9	0	0	
	Casual dress	30	9.52	22	20.75	3	8.83	
	Uniform	149	47.30	52	49.07	8	23.53	
	Mixed	1	0.32	2	1.93	0	0	
Interpersonal	Body language	Smiles	158	19.27	38	14.56	22	22.68
		Hand gestures	238	29.02	90	34.48	27	27.84
		Eye contact	111	13.54	30	11.49	14	14.43
	Individual	163	19.88	34	13.02	11	11.34	
	Group	150	18.29	69	16.45	23	35.05	
Spatial	Office settings	25	6.74	13	12.26	0	0	
	Workplaces (not office)	218	58.76	36	33.96	9	29.03	
	Special occasions	66	17.79	34	32.08	16	51.61	
	Work related devices	18	4.85	4	3.77	2	6.45	

	Tables/chairs/sofas	29	7.81	11	10.38	4	12.90
	Processed backgrounds	3	0.8	5	4.72	0	0
	Plain backgrounds	12	3.25	3	2.83	3	0.68

Table 9 Portrait analysis by industry sector

Table 9.1: Banking/Financial Services sector summary of comparative portrait analysis

Portrait Code	Subcategory		UK firms		China H firms		China A firms		Total	%
			No.	%	No.	%	No.	%		
Physical	Gender	Male	167	55	154	75	97	73	418	65
		Female	73	24	32	15	13	10	118	18
		Mixed	60	21	20	10	22	17	102	17
	Age	Young (< 35)	40	13	19	8	19	14	78	12
		Middle (35-50)	97	31	61	27	55	40	213	32
		Old (50+)	143	46	131	58	59	43	333	50
		Mixed	23	7	13	6	4	3	40	5
		Unidentifiable	5	3	2	1	0	0	7	1
	Dress	Formal dress	239	80	180	95	132	96	551	88
Chinese dress		0	0	0	0	0	0	0	0	
Casual dress		50	16	6	3	4	3	60	10	
Uniform		5	2	2	2	1	1	8	1	
Mixed		5	2	0	0	0	0	5	1	
Interpersonal	Body language	Smiles	193	22	170	23	95	24	458	23
		Hand gestures	121	14	43	6	41	10	205	10
		Eye contact	220	25	247	34	118	30	585	29
	Individual	197	23	244	33	103	26	544	27	
	Group	129	16	30	4	34	10	193	11	
Spatial	Office settings	76	25	0	0	0	0	76	13	
	Workplaces (not office)	46	15	7	5	6	4	59	10	

	Special occasions	61	20	15	12	27	20	103	18
	Work-related devices	4	1	4	3	2	1	10	2
	Tables/chairs/sofas	27	9	4	3	3	2	34	6
	Processed backgrounds	1	1	47	36	1	1	49	8
	Plain backgrounds	81	29	53	41	99	72	233	43

Table 9.1a: Banking/Financial Services structure capital (Management) portrait analysis template

Portrait Code	Subcategory		UK firms		China H firms		China A firms		
			No.	%	No.	%	No.	%	
Physical	Gender	Male	113	77	123	84	92	88	
		Female	18	12	15	10	6	5.7	
		Mixed group	15	10	8	5.4	7	6.6	
	Age	Young (< 35)	0	0	1	0.6	0	0	
		Middle(35-50)	14	9.3	51	31	49	45	
		Old (50+)	131	87	103	62	59	54	
		Mixed	5	3.3	10	6	2	1.8	
		Unidentifiable	0	0	1	0.6	0	0	
	Dress	Formal dress		146	99	130	100	110	100
		Chinese dress		0	0	0	0	0	0
Casual dress		0	0	0	0	0	0		
Uniform		0	0	0	0	0	0		
Mixed		1	0.7	0	0	0	0		
Interpersonal	Body language	Smiles	114	27	125	22	72	24	
		Hand gestures	25	5.9	23	4	20	6.5	
		Eye contact	141	33	200	36	104	34	
	Individual		121	28	199	35	97	32	
	Group		26	6	15	2.6	13	4.2	
Spatial	Office settings		64	43	0	0	0	0	
	Workplaces (non office)		4	2.7	2	2.9	1	0.9	

	Special occasions	9	6.1	7	10	12	11
	Work related devices	0	0	0	0	0	0
	Tables/chairs/sofas	11	7.4	0	0	0	0
	Processed backgrounds	0	0	44	63	0	0
	Plain backgrounds	60	41	17	24	96	88

Table 9.1b: Banking/Financial Services relationship capital (customers) portrait analysis

Portrait Code	Subcategory		UK firms		China H firms		China A firms	
			No.	%	No.	%	No.	%
Physical	Gender	Male	35	47	28	70	0	0
		Female	24	32	10	25	0	0
		Mixed group	15	20	2	5	1	100
	Age	Young (< 35)	25	32	3	7.5	1	100
		Middle (35-50)	33	42	8	20	0	0
		Old (50+)	4	5.1	28	70	0	0
		Mixed	14	18	1	2.5	0	0
		Unidentifiable	3	3.8	0	0	0	0
Dress	Formal dress		20	29	38	95	0	0
	Chinese dress		0	0	0	0	0	0
	Casual dress		46	68	2	5	1	100
	Uniform		2	2.9	0	0	0	0
	Mixed		0	0	0	0	0	0
Interpersonal	Body language	Smiles	34	16	30	27	1	33
		Hand gestures	51	23	3	2.7	1	33
		Eye contact	35	16	38	34	0	0
	Individual		39	18	38	34	0	0
	Group		59	27	2	1.8	1	33
Spatial	Office settings		0	0	0	0	0	0
	Workplaces (not office)		0	0	0	0	0	0

	Special occasions	44	61	2	4.9	0	0
	Work-related devices	4	5.5	1	2.4	0	0
	Tables/chairs/sofas	4	5.6	1	2.4	0	0
	Processed backgrounds	1	1.3	1	2.4	1	100
	Plain backgrounds	19	26	36	88	0	0

Table 9.1c: Banking/Financial Services human capital (employees) portrait analysis template

Portrait Code	Subcategory		UK firms		China H firms		China A firms	
			No.	%	No.	%	No.	%
Physical	Gender	Male	19	24	3	15	5	19
		Female	31	39	7	35	7	27
		Mixed group	30	38	10	50	14	54
	Age	Young(< 35)	15	19	15	75	18	69
		Middle(35-50)	50	63	2	10	6	23
		Old (50+)	8	10	0	0	0	0
		Mixed	4	5.1	2	10	2	7.7
Unidentifiable	2	2.5	1	5	0	0		
Dress	Formal dress		73	91	12	67	22	85
	Chinese dress		0	0	0	0	0	0
	Casual dress		4	5	4	22	3	12
	Uniform		3	3.8	2	11	1	3.8
	Mixed		0	0	0	0	0	0
Interpersonal	Body language	Smiles	45	21	15	25	22	27
		Hand gestures	45	21	17	28	20	24
		Eye contact	44	20	9	15	14	17
	Individual		37	17	7	11	6	7.3
	Group		44	20	13	21	20	24

Spatial	Office settings	12	16	0	0	0	0
	Workplaces (not office)	42	55	5	26	5	18
	Special occasions	8	11	6	32	15	54
	Work-related devices	0	0	3	16	2	7.1
	Tables/chairs/sofas	12	16	3	16	3	11
	Processed backgrounds	0	0	2	11	0	0
	Plain backgrounds	2	2.6	0	0	3	11

Table 9.2: Logistics sector summary of comparative portrait analysis

Portrait Code	Subcategory		UK firms		China H firms		China A firms		Total	%
			No.	%	No.	%	No.	%		
Physical	Gender	Male	137	57	20	69	4	100	161	59
		Female	44	18	7	24	0	0	51	19
		Mixed	58	25	2	7	0	0	60	22
	Age	Young (< 35)	61	26	6	20	0	0	67	25
		Middle (35-50)	39	17	12	41	3	75	54	20
		Old (50+)	100	43	8	27	1	25	109	41
		Mixed	27	12	1	5	0	0	28	11
		Unidentifiable	4	2	2	7	0	0	6	3
	Dress	Formal dress		127	54	14	45	4	100	145
Chinese dress		0	0	1	3	0	0	1	1	
Casual dress		59	25	5	16	0	0	64	23	
Uniform		38	16	9	29	0	0	49	17	
Mixed		11	5	2	7	0	0	13	5	
Interpersonal	Body language	Smiles	118	20	15	18	1	7	134	20
		Hand gestures	78	13	20	25	4	31	102	15
		Eye contact	145	25	17	21	4	31	166	25

	Individual	163	28	16	20	4	31	183	27
	Group	76	14	13	16	0	0	89	13
Spatial	Office setting	5	2	3	11	0	0	8	3
	Workplaces (not office)	92	35	12	46	0	0	104	35
	Special occasions	52	20	1	4	0	0	53	18
	Work-related devices	12	4	0	0	0	0	12	4
	Tables/chairs/sofas	25	9	3	11	3	75	31	11
	Processed backgrounds	0	0	2	7	1	25	3	1
	Plain backgrounds	79	30	5	21	0	0	84	28

Table 9.2a: Logistics structural capital (Management) portrait analysis template

Portrait Code	Subcategory		UK firms		China H firms		China A firms	
			No.	%	No.	%	No.	%
Physical	Gender	Male	91	83	10	100	4	100
		Female	17	16	0	0	0	0
		Mixed group	1	0.9	0	0	0	0
	Age	Young (< 35)	0	0	0	0	0	0
		Middle (35-50)	10	10	2	20	3	75
		Old (50+)	90	90	8	80	1	25
		Mixed	0	0	0	0	0	0
Unidentifiable	0	0	0	0	0	0		
Dress	Formal dress		108	100	10	100	4	100
	Chinese dress		0	0	0	0	0	0
	Casual dress		0	0	0	0	0	0
	Uniform		0	0	0	0	0	0
	Mixed		0	0	0	0	0	0
Interpersonal	Body language	Smiles	85	28	7	22	1	7.7
		Hand gestures	3	0.9	5	16	4	31
		Eye contact	109	36	10	31	4	31

	Individual	107	35	9	28	4	31
	Group	2	0.7	1	3.1	0	0
Spatial	Office settings	1	0.9	3	27	0	0
	Workplaces (not office)	20	20	0	0	0	0
	Special occasions	2	1.9	0	0	0	0
	Work related devices	0	0	0	0	0	0
	Tables/chairs/sofas	2	1.9	2	18	3	75
	Processed backgrounds	0	0	2	18	1	25
	Plain backgrounds	77	75	4	36	0	0

Table 9.2b: Logistics relationship capital (customers) portrait analysis template

Portrait Code	Subcategory		UK firms		China H firms		China A firms	
			No.	%	No.	%	No.	%
Physical	Gender	Male	16	22	0	0	0	0
		Female	18	25	1	100	0	0
		Mixed group	39	53	0	0	0	0
	Age	Young (< 35)	26	37	0	0	0	0
		Middle (35-50)	11	15	1	100	0	0
		Old (50+)	8	11	0	0	0	0
		Mixed	24	34	0	0	0	0
		Unidentifiable	2	2.8	0	0	0	0
Dress	Formal dress		8	12	0	0	0	0
	Chinese dress		0	0	0	0	0	0
	Casual dress		50	72	1	100	0	0
	Uniform		5	7.2	0	0	0	0
	Mixed		11	15	0	0	0	0
Interpersonal	Body language	Smiles	18	13	0	0	0	0
		Hand gestures	28	20	0	0	0	0
		Eye contact	24	17	0	0	0	0

	Individual	28	20	1	100	0	0
	Group	43	30	0	0	0	0
Spatial	Office settings	0	0	0	0	0	0
	Workplaces (not office)	6	8.5	0	0	0	0
	Special occasions	40	56	0	0	0	0
	Work related devices	3	4.2	0	0	0	0
	Tables/chairs/sofas	21	30	1	100	0	0
	Processed backgrounds	0	0	0	0	0	0
	Plain backgrounds	1	1.4	0	0	0	0

Table 9.2c: Logistics human capital (employees) portrait analysis template

Portrait Code	Subcategory		UK firms		China H firms		China A firms	
			No.	%	No.	%	No.	%
Physical	Gender	Male	30	53	10	56	0	0
		Female	9	16	6	33	0	0
		Mixed group	18	32	2	11	0	0
	Age	Young (< 35)	35	60	6	38	0	0
		Middle (35-50)	18	31	9	56	0	0
		Old (50+)	2	3.4	0	0	0	0
		Mixed	3	5.1	1	5.6	0	0
		Unidentifiable	2	3.4	2	11	0	0
Dress	Formal dress		11	21	4	20	0	0
	Chinese dress		0	0	1	5	0	0
	Casual dress		9	17	4	20	0	0
	Uniform		33	62	9	45	0	0
	Mixed		0	0	2	10	0	0
Interpersonal	Body	Smiles	15	11	8	17	0	0

	language	Hand gestures	47	35	15	31	0	0
		Eye contact	12	9	7	15	0	0
	Individual		28	21	6	13	0	0
	Group		31	23	12	25	0	0
Spatial	Office settings		4	4.3	0	0	0	0
	Workplaces (not office)		66	72	12	86	0	0
	Special occasions		10	11	1	7.1	0	0
	Work related devices		9	9.8	0	0	0	0
	Tables/chairs/sofas		2	2.1	0	0	0	0
	Processed backgrounds		0	0	0	0	0	0
	Plain backgrounds		1	1	1	7.1	0	0

Table 9.3: Energy sector summary of comparative portrait analysis template

Portrait Code	Subcategory		UK firms		China H firms		China A firms	
			No.	%	No.	%	No.	%
Physical	Gender	Male	30	53	10	56	0	0
		Female	9	16	6	33	0	0
		Mixed group	18	32	2	11	0	0
	Age	Young (< 35)	35	60	6	38	0	0
		Middle (35-50)	18	31	9	56	0	0
		Old (50+)	2	3.4	0	0	0	0
		Mixed	3	5.1	1	5.6	0	0
		Unidentifiable	2	3.4	2	11	0	0
Dress	Formal dress		11	21	4	20	0	0
	Chinese dress		0	0	1	5	0	0
	Casual dress		9	17	4	20	0	0
	Uniform		33	62	9	45	0	0

		Mixed	0	0	2	10	0	0
Interpersonal	Body language	Smiles	15	11	8	17	0	0
		Hand gestures	47	35	15	31	0	0
		Eye contact	12	9	7	15	0	0
	Individual		28	21	6	13	0	0
	Group		31	23	12	25	0	0
Spatial	Office settings		4	4.3	0	0	0	0
	Workplaces (not office)		66	72	12	86	0	0
	Special occasions		10	11	1	7.1	0	0
	Work related devices		9	9.8	0	0	0	0
	Tables/chairs/sofas		2	2.1	0	0	0	0
	Processed backgrounds		0	0	0	0	0	0
	Plain backgrounds		1	1	1	7.1	0	0

Table 9.3a: Energy structure capital (Management) portrait analysis

Portrait Code	Subcategory		UK firms		China H firms		China A firms	
			No.	%	No.	%	No.	%
Physical	Gender	Male	92	84	113	90	50	96
		Female	11	10	11	8.8	2	4
		Mixed	6	5.5	1	0.8	0	0
	Age	Young (< 35)	0	0	1	0.8	0	0
		Middle (35-50)	17	15	43	35	18	35
		Old (50+)	87	79	80	65	34	67
		Mixed	5	4.5	0	0	0	0
		Unidentifiable	1	0.9	0	0	0	0
	Dress	Formal dress		85	100	124	100	52
Chinese dress		0	0	0	0	0	0	
Casual dress		0	0	0	0	0	0	

		Uniform	0	0	0	0	0	0
		Mixed	0	0	0	0	0	0
Interpersonal	Body language	Smiles	87	30	84	26	38	27
		Hand gestures	16	5.4	6	1.9	1	0.7
		Eye contact	81	28	123	38	52	36
		Individual	97	33	106	33	52	36
		Group	13	4.4	1	0.3	0	0
Spatial		Office settings	21	20	2	1.6	1	1.9
		Workplaces (not office)	1	0.9	0	0	0	0
		Special occasions	5	4.7	2	1.6	0	0
		Work related devices	0	0	0	0	0	0
		Tables/chairs/sofas	5	4.7	3	2.3	1	1.9
		Processed backgrounds	3	2.8	3	2.3	0	0
		Plain backgrounds	72	67	118	92	51	94

Table 9.3b: Energy relationship capital (customers) portrait analysis template

Portrait Code	Subcategory	UK firms		China H firms		China A firms		
		No.	%	No.	%	No.	%	
Physical	Gender	Male	0	0	1	17	0	0
		Female	6	86	4	66	0	0
		Mixed group	1	14	1	17	0	0
	Age	Young (< 35)	6	86	4	66	0	0
		Middle (35-50)	0	0	1	17	0	0
		Old (50+)	1	14	0	0	0	0
		Mixed	0	0	1	17	0	0
		Unidentifiable	0	0	0	0	0	0
	Dress	Formal dress	0	0	1	14	0	0
Chinese dress		0	0	2	29	0	0	

		Casual dress	7	100	3	43	0	0
		Uniform	0	0	0	0	0	0
		Mixed	0	0	1	14	0	0
Interpersonal	Body language	Smiles	7	33	4	31	0	0
		Hand gestures	7	33	1	7.7	0	0
		Eye contact	2	9.5	2	15	0	0
		Individual	6	29	3	23	0	0
		Group	1	4.8	3	23	0	0
Spatial		Office settings	0	0	0	0	0	0
		Workplaces (not office)	0	0	0	0	0	0
		Special occasions	7	100	6	86	0	0
		Work related devices	0	0	0	0	0	0
		Tables/chairs/sofas	0	0	1	14	0	0
		Processed backgrounds	0	0	0	0	0	0
		Plain backgrounds	0	0	0	0	0	0

Table 9.3c: Energy human capital (employees) portrait analysis

Portrait Code	Subcategory	UK firms		China H firms		China A firms		
		No.	%	No.	%	No.	%	
Physical	Gender	Male	45	60	6	67	1	50
		Female	13	17	1	11	1	50
		Mixed	17	23	2	22	0	0
	Age	Young (< 35)	17	23	2	22	2	100
		Middle (35-50)	41	55	4	44	0	0
		Old (50+)	2	2.7	0	0	0	0
		Mixed	9	12	2	22	0	0
		Unidentifiable	6	8	1	11	0	0
	Dress	Formal dress	18	25	1	11	0	0

	Chinese dress	0	0	0	0	0	0	
	Casual dress	7	9.6	0	0	0	0	
	Uniform	48	66	8	89	2	100	
	Mixed	0	0	0	0	0	0	
Interpersonal	Body language	Smiles	27	16	0	0	0	
		Hand gestures	58	34	9	50	2	50
		Eye contact	15	8.7	0	0	0	0
	Individual	33	19	2	11	2	50	
	Group	38	22	7	39	0	0	
Spatial	Office settings	9	10	1	9	0	0	
	Workplaces (not office)	50	57	8	72	0	0	
	Special occasions	15	17	1	9	0	0	
	Work related devices	4	4.5	0	0	0	0	
	Tables/chairs/sofas	8	9	1	9	0	0	
	Processed backgrounds	0	0	0	0	0	0	
	Plain backgrounds	2	2.2	0	0	0	0	

Table 9.4: IT/Telecom sector summary of comparative portrait analysis

Portrait Code	Subcategory	UK firms		China H firms		China A firms		Total	%	
		No.	%	No.	%	No.	%			
Physical	Gender	Male	92	62	109	65	27	63	228	63
		Female	32	21	27	16	12	28	71	20
		Mixed	25	17	32	19	4	9	61	13
	Age	Young (< 35)	47	33	42	25	12	31	101	28
		Middle (35-50)	35	25	48	28	24	62	107	30
		Old (50+)	49	35	54	32	0	16	103	29

		Mixed	6	4	20	12	3	7	29	8
		Unidentifiable	4	3	6	3	0	0	10	5
Dress	Formal dress		84	60	112	67	26	58	222	62
	Chinese dress		0	0	1	1	0	0	1	1
	Casual dress		45	32	30	18	15	33	90	25
	Uniform		11	7	23	14	3	7	37	11
	Mixed		1	1	0	0	1	2	2	1
Interpersonal	Body language	Smiles	75	19	96	21	37	29	208	21
		Hand gestures	75	19	95	21	25	20	195	20
		Eye contact	89	23	107	23	25	20	221	22
	Individual		101	26	106	23	28	22	235	24
	Group		50	13	57	12	10	9	117	13
Spatial	Office settings		4	2	0	0	0	0	4	1
	Workplaces (not office)		6	34	19	11	3	56	28	8
	Special occasions		64	42	38	23	17	36	119	32
	Work related devices		2	1	1	1	0	0	3	1
	Tables/chairs/sofas		11	7	5	3	5	11	21	6
	Processed backgrounds		2	1	30	18	0	0	32	9
	Plain backgrounds		64	50	74	44	22	47	160	43

Table 9.4a: IT/Telecom structural capital (Management) portrait analysis

Portrait Code	Subcategory	UK firms		China H firms		China A firms		
		No.	%	No.	%	No.	%	
Physical	Gender	Male	69	88	83	87	17	81
		Female	7	8.9	7	7.3	4	19
		Mixed	2	2.5	5	5.2	0	0
	Age	Young (< 35)	0	0	0	0	0	0
		Middle (35-50)	23	33	36	38	16	100
		Old (50+)	47	67	53	56	0	0

		Mixed	0	0	4	4.2	0	0
		Unidentifiable	0	0	2	2.1	0	0
Dress	Formal dress		70	100	94	99	21	100
	Chinese dress		0	0	0	0	0	0
	Casual dress		0	0	1	1	0	0
	Uniform		0	0	0	0	0	0
	Mixed		0	0	0	0	0	0
Interpersonal	Body language	Smiles	37	19	64	23	21	32
		Hand gestures	19	9.7	33	12	3	4.5
		Eye contact	68	35	88	32	21	32
	Individual		68	35	84	30	21	32
	Group		2	1	10	3.6	0	0
Spatial	Office settings		4	5.3	0	0	0	0
	Workplaces (not office)		0	0	0	0	0	0
	Special occasions		2	2.6	14	15	1	4.5
	Work related devices		0	0	0	0	0	0
	Tables/chairs/sofas		5	6.6	0	0	3	14
	Processed backgrounds		1	1.3	19	20	0	0
	Plain backgrounds		63	84	61	65	18	82

Table 9.4b: IT/Telecom relationship capital (customers) portrait analysis template

Portrait Code	Subcategory		UK firms		China H firms		China A firms	
			No.	%	No.	%	No.	%
Physical	Gender	Male	12	23	13	41	7	37
		Female	25	47	13	41	8	42
		Mixed	16	30	6	18	4	21
	Age	Young (< 35)	36	68	26	81	11	58
		Middle (35-50)	8	15	4	12	5	26

		Old (50+)	2	3.8	0	0	0	0
		Mixed	6	11	1	3.1	3	16
		Unidentifiable	1	1.8	1	3.1	0	0
Dress	Formal dress		7	13	6	19	4	21
	Chinese dress		0	0	1	3.2	0	0
	Casual dress		43	81	24	77	15	71
	Uniform		2	3.8	0	0	0	0
	Mixed		1	1.9	0	0	0	0
Interpersonal	Body language	Smiles	31	20	23	24	16	31
		Hand gestures	40	26	30	31	19	36
		Eye contact	18	12	11	11	4	12
	Individual		27	18	18	19	4	12
	Group		36	24	14	15	9	17
Spatial	Office settings		0	0	0	0	0	0
	Workplaces (not office)		0	0	0	0	0	0
	Special occasions		51	94	9	29	15	71
	Work related devices		0	0	0	0	1	4.7
	Tables/chairs/sofas		3	5.5	0	0	1	4.8
	Processed backgrounds		0	0	9	29	0	0
	Plain backgrounds		0	0	13	42	4	19

Table 9.4c: IT/Telecom human capital (employees) portrait analysis template

Portrait Code	Subcategory	UK firms		China H firms		China A firms		
		No.	%	No.	%	No.	%	
Physical	Gender	Male	11	61	13	32	3	100
		Female	0	0	7	17	0	0
		Mixed group	7	39	21	51	0	0
	Age	Young (< 35)	11	61	16	37	1	25

		Middle (35-50)	4	22	8	19	3	75
		Old (50+)	0	0	1	2.3	0	0
		Mixed	0	0	15	35	0	0
		Unidentifiable	3	17	3	6.9	0	0
Dress	Formal dress		7	39	12	30	1	25
	Chinese dress		0	0	0	0	0	0
	Casual dress		2	11	5	12	0	0
	Uniform		9	50	23	58	3	75
	Mixed		0	0	0	0	0	0
Interpersonal	Body language	Smiles	7	15	9	10	0	0
		Hand gestures	16	33	32	37	3	43
		Eye contact	3	6.2	8	9.3	0	0
	Individual		6	13	4	4.7	3	43
	Group		12	25	33	38	1	14
Spatial	Office settings		0	0	0	0	0	0
	Workplaces (not office)		6	25	19	45	3	60
	Special occasions		11	46	15	36	1	20
	Work related devices		2	8.3	1	2.4	0	0
	Tables/chairs/sofas		3	13	5	12	1	20
	Processed backgrounds		1	4.2	2	4.8	0	0
	Plain backgrounds		1	4.2	0	0	0	0

Table 9.5: Retail sector summary of comparative portrait analysis template

Portrait Code	Subcategory		UK firms		China H firms		China A firms		Total	
			No.	%	No.	%	No.	%	No.	%
Physical	Gender	Male	143	49	63	50	1	25	207	49

		Female	111	38	20	16	2	50	133	31
		Mixed	37	13	44	34	1	25	82	20
	Age	Young (< 35)	78	27	49	39	0	20	127	30
		Middle (35-50)	99	34	20	16	2	40	121	29
		Old (50+)	83	28	17	13	1	20	101	24
		Mixed	30	10	39	31	2	40	71	16
		Unidentifiable	1	1	2	1	0	0	3	1
Dress	Formal dress		143	50	38	30	1	25	182	44
	Chinese dress		0	0	0	0	0	0	0	0
	Casual dress		65	23	41	33	1	25	107	26
	Uniform		66	23	44	35	2	50	112	27
	mixed		10	4	2	2	0	0	12	3
Interpersonal	Body language	Smiles	207	25	59	18	2	18	268	22
		Hand gestures	151	18	92	28	4	36	247	21
		Eye contact	191	23	52	16	1	9	244	20
	Individual		220	26	62	19	1	9	283	24
	Group		72	8	65	19	3	28	140	13
Spatial	Office settings		1	1	1	1	0	0	2	1
	Workplaces (not office)		55	18	6	4	1	25	62	14
	Special occasions		79	27	65	46	0	50	144	33
	Work related devices		3	1	0	0	0	0	3	1
	Tables/chairs/sofas		6	2	13	9	1	25	20	5
	Processed backgrounds		14	5	26	18	2	50	42	9
	Plain backgrounds		140	46	30	22	0	0	170	37

Table 9.5a: Retail structural capital (Management) portrait analysis

Portrait Code	Subcategory		UK firms		China H firms		China A firms	
			No.	%	No.	%	No.	%
Physical	Gender	Male	97	76	27	71	1	100
		Female	23	18	4	11	0	0
		Mixed	7	5.5	7	18	0	0
	Age	Young (< 35)	0	0	2	5.3	0	0
		Middle (35-50)	48	38	12	32	0	0
		Old (50+)	75	59	17	45	1	100
		Mixed	5	3.9	7	18	0	0
		Unidentifiable	0	0	0		0	0
	Dress	Formal dress		112	88	36	97	1
Chinese dress		0	0	0	0	0	0	
Casual dress		4	3.1	1	3	0	0	
Uniform		10	7.8	0	0	0	0	
Mixed		2	1.6	0	0	0	0	
Interpersonal	Body language	Smiles	102	28	31	26	1	25
		Hand gestures	18	4.9	14	12	1	25
		Eye contact	124	34	35	30	1	25
	Individual		119	32	29	25	1	25
	Group		7	1.9	9	7	0	0
Spatial	Office settings		1	0.8	1	2.4	0	0
	Workplaces (not office)		0	0	0	0	0	0
	Special occasions		6	4.7	8	19	0	0
	Work related devices		0	0	0	0	0	0
	Tables/chairs/sofas		2	1.6	5	12	1	50
	Processed backgrounds		3	2.4	3	11	1	50
	Plain backgrounds		115	91	25	93	0	0

Table 9.5b: Retail relationship capital (customers) portrait analysis template

Portrait Code	Subcategory		UK firms		China H firms		China A firms	
			No.	%	No.	%	No.	%
Physical	Gender	Male	10	14	33	47	0	0
		Female	49	67	10	14	0	0
		Mixed group	14	19	27	39	1	100
	Age	Young (< 35)	41	56	40	57	0	0
		Middle (35-50)	10	14	7	10	1	100
		Old (50+)	3	4.1	0	0	0	0
		Mixed	18	25	22	31	0	0
		Unidentifiable	1	1.4	1	1.4	0	0
	Dress	Formal dress		5	7.7	2	2.9	0
Chinese dress		0	0	0	0	0	0	
Casual dress		53	82	31	45	1	100	
Uniform		0	0	34	49	0	0	
Mixed		7	11	2	2.9	0	0	
Interpersonal	Body language	Smiles	41	19	22	13	1	33
		Hand gestures	61	29	61	37	1	33
		Eye contact	30	14	11	6.7	0	0
	Individual		42	20	30	18	0	0
	Group		40	17	40	24	1	33
Spatial	Office settings		0	0	0	0	0	0
	Workplaces (not office)		1	1.3	2	2.5	0	0
	Special occasions		51	64	46	58	0	0
	Work related devices		0	0	0	0	0	0
	Tables/chairs/sofas		0	0	6	7.6	0	0
	Processed backgrounds		9	11	22	28	1	100
	Plain backgrounds		19	24	3	3.8	0	0

Table 9.5c: Retail human capital (employees) portrait analysis template

Portrait Code	Subcategory		UK firms		China H firms		China A firms	
			No.	%	No.	%	No.	%
Physical	Gender	Male	36	40	3	16	0	0
		Female	39	43	6	21	2	100
		Mixed	16	17	10	53	0	0
	Age	Young (< 35)	37	41	7	37	0	
		Middle (35-50)	41	46	1	5.3	0	0
		Old (50+)	5	5.6	0	0	0	0
		Mixed	7	7.8	10	53	2	100
		Unidentifiable	0	0	1	5.3	0	0
	Dress	Formal dress		26	29	0	0	0
Chinese dress		0	0	0	0	0	0	
Casual dress		8	8.8	9	47	0	0	
Uniform		56	62	10	53	2	100	
Mixed		1	1	0	0	0	0	
Interpersonal	Body language	Smiles	64	25	6	13	0	0
		Hand gestures	72	28	17	35	2	50
		Eye contact	37	14	6	13	0	0
	Individual		59	23	3	6.2	0	0
	Group		25	9.7	16	33	2	50
Spatial	Office settings		0	0	0	0	0	0
	Workplaces (not office)		54	59	4	20	1	100
	Special occasions		22	24	11	55	0	0
	Work related devices		3	3.2	0	0	0	0
	Tables/chairs/sofas		4	4.4	2	10	0	0
	Processed backgrounds		2	2.2	1	5	0	0
	Plain backgrounds		6	6.6	2	10	0	0

Appendix 6: Transparency tool for space measurement

Appendix 7: Key findings of visual data by country and industry sector

<i>Findings</i>	<i>Table</i>	<i>Section</i>	<i>Theory/prior literature</i>
<i>The use of visual material across country groups</i>			
The ranking for the use of overall visual material goes from the UK (most use) to Hong Kong to mainland China (least use). This applies both in terms of occurrences and allocated space.	1.1 1.2 2.1 2.2	4.2.1 4.2.3 4.3.1 4.3.3	This is in line with impression management being more commonplace in a more developed western business environment (the UK) compared to the developing eastern one (mainland China), with Hong Kong representing the middle ground.
The ranking for the use of HIC related visual material goes from the UK (most use) to Hong Kong to mainland China (least use). This applies both in terms of occurrences and allocated space.	1.3 1.4 2.3 2.4	4.2.2 4.3.2	This is in line with impression management being more commonplace in a more developed western business environment (the UK) compared to the developing eastern one (mainland China), with Hong Kong representing the middle ground.
The UK firms use a greater variety of visual tools: pictures, graphs and charts.	1.1 1.2	4.2.1 4.2.2	This is in line with impression management being more commonplace in a more developed western business environment (the UK) compared to the developing eastern one (mainland China), with Hong Kong representing the middle ground.
All country groups use more pictures than graphs and charts.	1.1 1.2	4.2.1	This in line with the findings of Davison and Skerratt (2007)
The UK firms use more non-photographic pictures, such as paintings and drawings	2.1 2.2	4.3.1	This is in line with impression management being more commonplace in a more developed western business environment (the UK), with a greater focus upon creative design and aesthetics.

Hong Kong firms use more mixed pictures. This possibly relates to their reflecting aspects of both western and eastern influences.	1.1 1.2	4.2.1	This is in line with Hong Kong representing the middle ground..
Across all country groups, large quantities of visual material are used to communicate HIC. This applies to all types of visual material, including pictures, graphs and charts.	1.3 1.4	4.2.2	This fits with the existing literature highlighting the inadequacy of the traditional accounting framework to communicate intangibles (Lev, 2001; Hand and Lev, 2003; Zambon 2003. It reinforces the findings of Davison and Skerratt (2007, 2009); Campbell, Mcphail and Slack (2009) and Bernardi, Bean and Weippert (2005).
The use of photographs to communicate HIC is especially preponderant	2.3. 2.4	4.2.2	This fits with the existing literature highlighting the inadequacy of the traditional accounting framework to communicate intangibles (Lev, 2001; Hand and Lev, 2003; Zambon 2003. It reinforces the findings of Davison and Skerratt (2007, 2009); Campbell, Mcphail and Slack (2009) and Bernardi, Bean and Weippert (2005).
<i>The use of visual material across industry sectors</i>	2 3	4.3 4.4	
When analysed across the five industry sectors, the ranking for the use of visual material remains the same: from the UK (most use) to Hong Kong to mainland China (least use). This applies both in terms of occurrences and allocated space.	2.1 2.2 3.1 3.2	4.3.1 4.4.1	This reinforces the findings of impression management being more commonplace in a more developed western business environment (the UK) compared to the developing eastern one (mainland China), with Hong Kong representing the middle ground.
As is the case for country groups, all industry sectors use more pictures than graphs and charts.	3.1 3.2	4.4	This further reinforces the findings of Davison and Skerratt (2007)

<p>Banking/Financial Services and Retail firms use more overall visual communication than Energy, Logistics and IT/Telecom. This also applies to HIC related visual material. Furthermore, Banking/Financial Services is more balanced than the other sectors in the application of both pictures and graphs, Retail has a more pronounced tendency to emphasize the use of pictures than that of graphs/charts.</p>	<p>3.1 3.2 3.3, 3.4</p>	<p>4.4</p>	<p>This would fit with the more service-oriented sectors focusing on their communication with the public, and to have a higher proportion of human capital. Additionally, Retail has more pronounced sale promotion tendencies.</p>
<p>Banking/Financial Services and Retail firms use more visual data than Energy, Logistics and IT/Telecom.</p>	<p>3.1 3.2,</p>	<p>4.4.1</p>	<p>This would fit with more service-oriented sectors focusing more upon communication.</p>
<p>Banking/Financial Services and Retail firms use more HIC visual data than Energy, Logistics and IT/Telecom.</p>	<p>3.3 3.4</p>	<p>4.4.2</p>	<p>This would fit with more service-oriented industry sectors having a higher proportion of human capital.</p>

Appendix 8: Key findings of visual forms by country and industry sector

<i>Findings</i>	<i>Table</i>	<i>Section</i>	<i>Theory/prior literature</i>
<i>Picture analysis</i>			
Across all country groups and industry sectors, the majority of pictures come with captions to explain their meaning.	4.1 4.2 4.3 4.4 5.1 5.2 5.3 5.4	5.2 5.3	This is in line with Barthes's 'Rhetoric of the Image' theory, in that business images use linguistic captions to 'anchor' the meaning of their iconic part.
Both the occurrence and space volume of the pure pictures of all groups appear to be larger than those of the inserted pictures.	4.1 4.2 4.3 4.4 5.1 5.2 5.3 5.4	5.2.1 5.2.2 5.3.1 5.3.2	This is because the HIC photographs related to top management, mainly represented by pure photographs, take the lion's share of overall pictures.
Photographs show an absolute preponderance across the three types of pictures.	4.1 4.2 4.3 4.4 5.1 5.2 5.3 5.4	5.2 5.3	This is in accordance with the insight of Sontag (1972) that to confer photographs is to confer importance and documental proof.
The ranking of both the pure and inserted pictures remains the same: from the UK (top), to Hong Kong to mainland China (bottom). This applies both in terms of occurrences and space.	4.1 4.2 4.3 4.4 5.1 5.2 5.3 5.4	5.2 5.3	This reinforces the findings of a greater use of impression management in the more sophisticated business west (e.g. the UK) as compared to the developing east (e.g. mainland China). Hong Kong provides a middle ground.
<i>Graph & chart analysis</i>			
The ranking of graphs and charts remains the same from the UK (top), to Hong Kong to mainland China (bottom). This applies both in terms of occurrences and space.	6.1, 6.2 6.3, 6.4	5.4	This reinforces the findings of a greater use of impression management in the more sophisticated business west (e.g. the UK) as compared to the developing east (e.g. mainland China). Hong Kong provides a middle ground.
All country groups and sectors use bar charts more than other types (pie, line, circle, map, and diagram).	6.1, 6.2 6.3, 6.4	5.4.1 5.4.2	This further reinforces the findings of Beattie and Jones (1992). The graphs of the China A and China H firms had not previously been examined.
Graphs/charts are frequently	6.3	5.4.2	This is an effective application of

used as an aid to analyse and communicate HIC.	6.4		the visual analysis function trait that makes it louder than words.
The ranking of graph and chart usage goes down from top management, to customers to employees	6.5 6.6 6.7	5.5	This adds new insights and content to the work of Beattie and Jones (1992)

Appendix 9: Key findings from the overall portrait data

<i>Findings</i>	<i>Tables</i>	<i>Sections</i>	<i>Theory/prior literature</i>
<i>Portraits analysis by country</i>			
The ranking of pictures by the three main intellectual capital functions is topped by managers, followed by employees and, lastly, customers. This applies both in terms of occurrences and space.	7.1 7.2	6.2.1	The result is in accordance with the research conducted by Guthey and Jackson (2005) and Davison (2009), and updates the work by Steenkamp, N. (2007).
Photographs are most widely used to promote top management capital across all countries and sectors.	7.1 7.2	6.2.1	Campbell, Mcphail and Slack (2009), Preston and Young (2000) and Bernardi, Bean and Weippert (2005), in line with Sontag's insight of photographs.
Pure pictures are ranked, top to bottom, from managers to customers to employees, pure pictures with captions are much more commonly used than those without.	7.3 7.4	6.2.2	This is in line with the insight of the key role played by the business elite in the corporate human capital (Davison, 2010), and also with Barthes's theory on 'Rhetoric of the Image' that states that business images use linguistic captions to 'anchor' the meaning of their iconic part.
UK firms are more likely than Chinese ones to address top management by units of occurrence and customers by space.	7.1, 7.2 7.3, 7.4 7.5, 7.6	6.2	The business leadership values the awareness of the cultural environment differences between east and west.
Employees dominate in the occurrences of inserted pictures, whereas customers show a dominance in space, top management is ranked last in this aspect.	7.5. 7.6	6.2.3	This is due to the inclination of highlighting employees through occurrences while customers are generally emphasized by means of space.

The rankings of pictures by the three key HIC elements in the three sample firm groups remain the same, with the UK at the top, Hong Kong in the middle and mainland China coming last.	7.1, 7.2 7.3, 7.4	6.2.1 6.2.2	This in line with there being greater awareness of impression management in the more sophisticated business west (the UK) as compared to the developing east (mainland China). Hong Kong provides a middle ground.
<i>Portraits analysis by country and codes (physical, dress, interpersonal, and spatial)</i>			
Male portrait ranking goes from mainland China (with the most) to Hong Kong to the UK (with the least)	8.1	6.3	This is in line with prior studies on gender that have suggested the subordination of women in eastern countries (Kuasirikun, 2011).
More 'young' (under 35) people are depicted by the UK firms. Mainland China firms produce the greatest proportion of portraits of 'old' (over 50) people.	8.1	6.3	This is in line with the cultural expectations that see greater respect being afforded to older people in eastern countries (Hofstede, 1984).
Formal dress ranking goes from mainland China, at the top, to Hong Kong to the UK. Formal dress portraits mainly depict managers.	8.1, 8.2, 8.4	6.3 6.4	This agrees with Hofstede's theory of culture that shows that Chinese culture features a greater power distance (Hofstede, 1984)
Interpersonal codes (smiles, hand gestures and eye contact) do not vary greatly between country groups.	8.1	6.3	This is surprising, as less body language was expected to be found in the country with greater power distance and formality.
Spatial settings. The main differentiator here is that the portraits from the mainland China firms show the greatest proportion by far of plain backgrounds.	8.1	6.3	This in line with there being greater awareness of impression management through the provision of background settings to portraits in the more sophisticated business west (the UK) as compared to the developing east (mainland

			China).
Management gender. Across all country groups, the vast majority of managers are male. The ranking goes from mainland China, at the top, to Hong Kong to the UK.	8.2	6.4	This is in agreement with gender studies that show the continued dominance of management positions by males (Bujaki and McConomy 2010). Female subordination is greater in eastern countries, reinforcing the findings of Kuasirikun (2011), Duff (2011), and Bujaki and McConomy (2010).
Management dress. Managers are formally dressed in all country groups. The ranking once again goes from China down to the UK, but the difference is small.	8.1 8.2	6.3 6.4	This is a common worldwide cultural trait as more formal dress is generally used for the most important people on the most important occasions.
<i>Portraits analysis by country, industry sector and job function</i>			
Energy appears to be the most conservative sector. It portrays the greatest proportion of males, the greatest proportion of 'middle' (35 to 50) and 'old' (over 50) age group persons, and the second-greatest proportion of people wearing formal dress (after Banking/Financial Services).	9.3	6.5	Male social power is more dominant in these sectors since they are more technology-driven or expertise-oriented
The Retail sector portrays the greatest proportion of females and the largest proportion of individuals dressed in uniform.	9.5	6.5	The distinct inclinations and divisions of men and women in employment may be mainly affected by both conventional gender social divisions and traits
Men are much more highlighted in Banking/Financial Services, Energy and IT/Telecom than in the other sectors.	9.1 9.3 9.4	6.5	Men are apparently at an advantage in terms of added technical value or creation.

<p>‘Young’ people (under 35) are more highlighted in Retail, IT/Telecom, and Logistics. ‘Middle’ age people (35 to 50) are significant in all sectors.</p>	<p>9.2 9.4 9.5</p>	<p>6.5</p>	<p>‘Young’ people are welcomed in more production/sale-oriented sectors. ‘Middle’ age people are the intermediate human intellectual capital, the link between the ‘young’ and the ‘old’.</p>
<p>Only the Banking/Financial Services and Retail sectors produce a significant number of mixed age portraits,</p>	<p>9.1 9.5</p>	<p>6.5</p>	<p>This could be a way in which impression management is used to underplay the obvious unequal gender proportion and asymmetry.</p>

Appendix 10: Previous visual studies

<i>Categories</i>	<i>Researchers</i>	<i>Findings/topic</i>
<i>Visual impression management in accounting</i>	Dowling & Pfeffer (1975); Meyer & Rowan (1977); Pfeffer and Salancik (1978); Pfeffer (1981); Elsbach (1994); Neu, Warsame and Pedwell (1998) Schlenker (1980) Sikes (1986); Ewen (1988); Ginzel, Kramer and Sutton (1993); Featherstone (1991); Harvey (1989); Morgan (1986) Leary & Kowalski (1990) Neu (1991); Neu et al (1998) Lee (1994)	Impression management helps to construct and maintain organizational legitimacy through the use of symbolic actions. Argued impression management serves the basic psychological human need of self-presentation. Conceptualization of visual communication Both individuals and organizations can try to bias the information they provide to manipulate the image third parties have of them Impression management is to present a self-serving view of corporate and managerial performance Examined the increases reported by Sikes and Ewen in greater depth, and found a significant rise in

	<p>McKinstry (1996)</p> <p>Beattie and Jones (2000)</p> <p>Davison (2002, 2007, 2010)</p> <p>Davison &Skerratt (2007)</p> <p>Beattie, Dhanani and Jones, (2008)</p>	<p>images.</p> <p>Showed that the number of photographs had risen sharply between 1979 and 1994</p> <p>Intimated the manipulation of presentational formats, such as graphs or pictures</p> <p>Argued that photographic and non-photographic pictures are greatly used to satisfy a greater need to express sentiment, arouse compassion and instil trust</p> <p>Found a notable increase in annual report lengths and a higher proportion of images</p> <p>Exposed a sharp increase in total page length, voluntary information</p>
<i>Visual media</i>	<p>Tufte (1983); Beattie and Jones (1992); Cleveland (1993)</p>	<p>Argued graphs serve many distinctive purposes such as “data analysis, modelling, theory building and data presentation/communication”.</p>
	<p>Holmes(1984); Cunningham(1990); Hussey (1990)</p>	<p>Accepted that graphs can help improve the communication of accounting information</p>
	<p>Graves et al., (1996)</p>	<p>The influence of television</p>
	<p>Wainer (1996)</p>	<p>Graphic communication is a powerful ‘visual metaphor</p>

	Preston et al., (1996)	Ways of seeing
	Davison, (2008)	Rhetorical framing
	Beattie and Jones (1992, 2001, 2002)	The better companies perform, the more they employ financial graphs. Moreover, measurement distortions below 10 per cent could significantly delete the distortion in the perceptions of users.
	Benschop and Meihuizen, (2002); Bernardi et al.(2002, 2005)	Gender dynamics
	Hill and Milner, (2003)	Developed a comprehensive set of guidelines, suggested as a learning tool, which probably improved the effective use of graphical display
	So and Smith (2002)	Colour graphics improve decision making under conditions of low information complexity and limited to female subjects.

<p><i>Visual representations of intangibles</i></p>	<p>Mouritsen, Larken and Bukh (2001)</p> <p>Davison (2002, 2004, 2007, 2010, 2014)</p> <p>Steenkamp(2007)</p> <p>Steenkamp, Hooks and</p>	<p>Intellectual capital disclosure as a centre of translation in which visual impression management take on a role</p> <p>Advocated imaging accounting and intangibles</p> <p>Concerned with icon and visual branding (2009); visual portraits of the business elite, the exploration of the relationship between visual and faith ritual, photographs and accountability in cracking the codes of an NGO, and picture and intangibles.</p> <p>Davison (2010) developed a meaningful conceptual analysis framework which comprises four sets of rhetorical codes in portraiture: physical (identification, physiognomy and stature); dress (social and cultural perspectives); interpersonal (body language and group portraits); and spatial (use of props, artefacts and settings).</p> <p>35% of voluntary ICR in the annual report of NZ firms were disclosed through pictures. 87% of all ICR disclosures made through pictures related to two IC items: employees and brands, with employees representing the larger share.</p> <p>Both preparers and users brought multiple meanings</p>
---	---	---

	<p>Steward (2010)</p> <p>Husin and Hooper (2012)</p>	<p>to the figures. Users were likely to overlook and subjectively perceive more messages than had been intended by the preparers. The most strongly perceived IC items are brand, corporate image building and employees.</p> <p>Showed the indispensability of visual images in contributing to the measure of the quality of intellectual capital disclosure</p>
<i>Visual representations of people in financial reporting</i>	Benschop and Meihuizen (2002)	Revealed that mostly stereotypical images were used to reinforce the traditional gender division of labour. They concluded that the masculine connotation of financial reports had been replaced by a more diverse representation of gender within organizations.
	Bernardi, Bean and Weippert (2005)	Found a higher percentage of minorities on boards and this diversity was shown in the annual report pictures of corporate boards.
	Guthey and Jackson (2005)	Argued that the CEO portraits and photographs of top management staff represented an important aspect of corporate image and reputation.
	Campbell, Mcphail and Slack	Noted a significant increase in human faces in

	(2009)	corporate annual reports.
	Bujaki and McConomy (2010)	Women in Canadian firms' annual reports were under-represented, especially in the portrayal of the board of directors
	Davison (2010)	Explored the portraits of company elites.
	Duff (2011)	Women in UK accounting firms were also under-represented, but the situation had improved compared to previous studies
	Kuasirikun (2011)	Women in the annual reports of Thai firms were portrayed in subsidiary roles. Men were portrayed as being much more powerful.
<i>Effects of culture on accounting visual communication</i>	Hofstede (1980), Hofstede and Bond (1988)	Gave the definition of culture and five societal values were identified.
	Gray (1988)	Identified four accounting values
	House et al. (2004)	Argued that culture significant events resulted from common experiences of members of collectives and were transmitted across age generations.
	Braun and Rodriguez (2008); Chenhall (2003); Harrison and McKinnon (1999)	Considered the direct influences of culture on accounting.
	Peterson and Wood (2008)	Deemed culture is typically absorbed through the process of socialization and is constructed in

		people's long-term memory
	Cieslewicz (2014)	Explored the relationship between national economic culture, institutions, and accounting, and affirmed the direct effects of national economic culture on national accounting
	Chand (2012)	Found both ethnic culture and organizational culture have a significant effect on the accountants' manner in the IFRS and also revealed that organizational culture has a greater effect on the judgments of accountants than ethnic culture.

Appendix 11: Previous IC disclosure studies summary

<i>Categories</i>	<i>Researchers</i>	<i>Findings</i>
Early stage exploration		
	Brooking (1996), Edvinsson and Malone (1997), Roof et al. (1997), Stewart (1997) and Sveiby (1997a), Edvinsson's seminal 1997 paper	Awareness of the importance of IC as a major driver of long-term value creation for organizations.
	Flamholtz (1999)	Human resource accounting resemblance with IC concept and measures.
	DATI (2000), MITR (2002), Bukh et al. (2001) and Mouritsen, et al. (2001)	Intellectual capital is treated as a competing technology of management.
Burgeoning stage		
<i>IC information deficiency</i>	Guthrie and Petty (2000)	Few companies took significant initiatives to measure and report IC in Australia.
	Williams (2001)	Found that there was a significant rise in the amount of IC disclosure in the annual reports of 31 randomly selected UK companies listed in the FTSE 100.
	Brennan (2001)	IC was rarely reported in Ireland.
	Roselender and Fincham (2004)	No application of IC in the factual accounting system, possibly due to the lack of a scientific and practical model and framework, in

		Canada, Australia, South Africa and European nations
	Vergauwen and van Alem (2005)	Voluntary IC disclosure varies between investigated countries as it is affected by country-specific regulations and auditor conservation
	Eustace (2001), GRI (2002), Upton (2001), Blair and Wallman (2001), GRI (2002), Kaplan and Norton (1992, 1993, 1997) Keskest (1996) Sveiby (1997) Meritum (2002) and DMSTI (2003)	Call for improved intangibles disclosure and new reporting models and guidelines. Balanced scorecard Service –profit-chain Intangible asset monitor Specific guidelines for IC.
<i>IC information distribution and level</i>	Dumay and Tull (2007)	The market is found to be most responsive to the disclosure of internal capital elements.
	Garci'a-meca, Parra, Larra'n and Marti'nez, 2005; White, Lee and Tower, (2007); GowthorpeKasperskaysand Perramon, (2008); Guthrie, Steane and Farnet, (2009); Erickson and Rotherg, (2009)	Greater focus and more attention is placed upon external (relational/customer) capital, followed by internal and finally human capital. Larger companies tend to produce more and higher level IC information.
	Striukova, Unerman and Guthrie (2008)	Disclosure with regard to customers and distribution channels is most frequent, larger

		companies disclose more, the Retail sector disclosed the most, WebPages contain the most IC disclosure, 80% of IC disclosures are qualitative, most quantitative disclosures are non-monetary in UK firms.
	Campbell and Rahman (2010)	Changing patterns of ICR increased the complexity of the messages being conveyed in voluntary reporting.
<i>Effect of ICDs in financially marketing capitalization</i>		
	Nielsen, Bukh, Mouritsen, Johansen and Gormsen, (2006); Singh and Zahn, (2007); Inderpal, Zahn and Mitchell, (2008).	There is a positive association between underpricing and the extent of ICD. IPOs are heavily reliant on IC resources.
	Verganwen, Bollen and Oirbans (2007)	A strong significant positive relationship between structural capital possession and ICD.
	Dumay and Tull (2007)	ICD in price-sensitive corporate announcements can have an effect on the cumulative abnormal return of a firm's share price.
	Luo, Koput and Powell(2009)	Ratio of scientists (human capital) is actively associated with R&D alliance partners and has a positive relationship with finance alliance partners.

<i>Human intellectual capital</i>	Lev and Schwartz, (1971); Lev, (2004),	Numerous researchers focused upon the role played by human capital in companies from an accounting perspective
	Edvinsson (1997) Lynn (1998, 1998a) Holland (2001); Roselender and Fincham (2001); Skaggs and Youndt, (2004); Gong, Shenkar, Luo and Nyaw, (2005); Yang and Lin, (2009);	Human capital increases competitive advantage The transformation of human capital into structural capital is critical in managing IC The importance of HC to the firms' performance/governance.
	Gates and Langevin (2010)	The more advanced a company is in the development of HCM, the better it performs.
	Young, Su, Fang S.C. and Fang S. R's (2009)	Value creating efficiency of HC is the major driving force of performance
	Snell and Jr., (1992); Lopez-Bazo and Moreno, (2008)	Stress the significance of the employee
	Abeysekera and Guthrie (2004)	Featuring employee contribution was the most notable HC attribute found in the annual report

	Leung and Kwong (2003)	Cultural factors affect the understanding between the Chinese and their foreign partners who often disagree on what constitutes legitimate justice and on the criteria upon which these rules are applied.
IC research on the UK	<p>Value added statements (1990s)</p> <p>William (2001)</p> <p>Collier (2001)</p> <p>Vance (2001)</p> <p>Verganwen, Bollen and Oirbans (2007)</p> <p>Holland (2001)</p> <p>Roselender and Fincham (2001, 2004)</p> <p>Beattie and Thomson (2007)</p>	<p>Only partly cover the IC concept.</p> <p>A significant rise in amount of IC disclosure.</p> <p>Intellectual capital is distinguished from intellectual capacity.</p> <p>Firms show more interest in management</p> <p>Positive relationship between structural capital possession and ICD.</p> <p>Qualitative factors, especially board and top management qualities, were central to corporate governance</p> <p>The relevance of IC is a key reporting agency within an organization. Insufficient application of IC in the factual accounting system.</p> <p>Transparency aids a better understanding of the IC concept.</p>

	<p>Striukova, Unerman and Guthrie (2008)</p> <p>Campbell and Rahman (2010)</p>	<p>There is a direct ratio between company size and ICD volume.</p> <p>Changing patterns of ICR increased the complexity of the messages.</p>
<p>IC research on China</p>	<p>Gong, Luo, and Nyaw (2005)</p> <p>Wu (2005)</p> <p>Hsu and Fang (2009)</p> <p>Yang and Lin (2009)</p> <p>Tai and Chen (2009)</p>	<p>Relational/interface HR set actually has a positive performance impact at the venture subsystem level.</p> <p>Balanced Scorecard (BSC) had a great positive effect on IC reporting.</p> <p>Human and relational capital promote new product development. Larger firms release more relational capital information.</p> <p>Human resource management has a positive effect on corporate performance.</p> <p>It is possible to manipulate the processes of IC computing and effectively avoid information loss.</p>