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IRISH BUSINESS AND
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Notes for Contributors

The *Irish Journal of Management* aims to publish well written and well researched articles that contribute to an understanding of management-related issues from a national, regional and international perspective. The *Journal* welcomes contributions from a wide range of management viewpoints, including inter-disciplinary and multi-disciplinary perspectives, as well as traditional disciplines and functions. Our list of associate editors reflects the breadth of coverage of the journal.

Contributions should be accompanied by a statement indicating that the paper is a new submission, that all authors have agreed to the submission to the *Irish Journal of Management* and that it is neither under consideration at another outlet nor been published elsewhere (papers published in conference proceedings are acceptable). If the paper draws on a project that has resulted in other publications, the authors should, in their cover letter, indicate how the current submission differs from previous work.

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- **Research papers:** Publishing quantitative and qualitative research approaches, literature surveys, conceptual papers and critiques.
- **Teaching submissions:** These can range from case study contributions and critiques to retrospective contributions on pedagogical issues related to teaching issues across discipline areas.
- **Book reviews:** word count 1,000–2,000 words
- **Special journal issues submissions:** The editors of the *Journal* seek submissions for special issue themes that are in keeping with the overall focus of the *Journal*.

Articles should normally be between 6,000 and 8,000 words (1,000–2,000 words for book reviews) in length and should conform to *IJM* style as follows:

1. **Tables and figures** should be clearly labelled and their position in the text should be indicated by 'Insert Table 1 here'. Tables and figures should be provided on separate

pages and included at the end of the article. In the case of graphs, diagrams or other illustrative material, the author will be responsible for the preparation of artwork, or for exceptional costs associated with any artwork required.

2. **Footnotes** should be avoided. Essential notes should be numbered consecutively in the text and grouped together at the end of the paper.
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- *Articles in journals:* Morrison, E. and Phelps, C. (1999) 'Taking Charge at Work: Extra-role Efforts to Initiate Workplace Change', *The Academy of Management Journal*, 42, pp. 403–19.
- The issue for journal articles should only be included if the volume is not paginated in a continuous way, i.e. if the page numbers revert to 1 at the beginning of each issue.
- *References in the text* should give the author(s), year of publication and page number(s), for example, 'as Roche (2001: 6) has argued…'
- If there is more than one reference to the same author and year, use letters (a, b, c) to indicate differences between publications, for example, Murphy (2005a).
- Web sources should be identified by title of article or information source with the date it was created, published or posted (date, month, year), exact URL, pagination and date accessed.
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4. **Style and punctuation:** Quotations should have single quotation marks with double quotation marks used where necessary within single quotes. Lengthy quotations should be indented with no quotation marks. There should be one space only after full stops.

Submissions

Contributions should be typed double-spaced on A4 paper, with ample left- and right-hand margins. A cover page should contain only the title, author's name(s), position(s) and institutional affiliation(s) and the address (one only) to which proofs should be sent, together with full contact details (email, phone and fax numbers). An abstract of 100–150 words should be included on the second page, together with 3–6 key words. To ensure anonymous review, authors should not identify themselves in the text but should include a separate sheet with a short biography of 50–75 words.

Manuscripts submitted should not have been previously published or be under concurrent consideration at another journal.

Authors are strongly advised to consult one or more recent issues of the *IJM* before submitting manuscripts for publication.

Contributions should be sent, by email only, to the editorial office: *IJM@nuigalway.ie*.

If you have a query on the suitability of a paper for the *Irish Journal of Management*, please contact the relevant associate editor or one of the editors: Dr David Collings at *david.collings@dcu.ie* or Dr James Cunningham at *james.cunningham@nuigalway.ie*.

All articles are double-blind refereed. The *Irish Journal of Management* aims to obtain a response to submissions within three months.

An electronic offprint of each published paper and one copy of the journal issue in which it is published is provided free of charge.

Venture Capital in Ireland in Comparative Perspective

Frank Barry,[*] Clare O'Mahony[†] and Beata Sax[‡]

ABSTRACT

This paper assembles the most comprehensive set of data available to offer a comparative perspective on venture capital in Ireland. The paper charts the emergence of the sector and the co-evolution of the demand and supply sides of the market. On the demand side, a flow of investment opportunities emerged – particularly from the indigenous software sector – for which venture capital represented an appropriate financing vehicle. Concurrently, on the supply side, public policy – including publicly provided funding – dramatically enhanced its availability. State support of the demand side has been a multiple of state support to the supply side of the market. Developing a self-sustaining VC sector, however, is found not to be a straightforward task.

Key Words: Venture capital; development finance; high-tech start-ups

INTRODUCTION

'Venture capital' refers to equity capital provided to early stage companies, where the venture capitalist also typically contributes management support to the enterprise. This type of capital is particularly appropriate to the needs of innovative start-up companies where informational asymmetries and the absence of collateral and reputation preclude access to more conventional forms of financing, and where the provision of equity relaxes the time constraints that enterprises would otherwise face.

Because of the link with innovative start-ups, the availability of an adequate supply of venture capital (VC) is usually seen as a necessary precondition for the emergence of innovative and dynamic regions. This draws on the model of Silicon Valley, which has been portrayed as an ecosystem consisting of two elements: (i) an economy of established firms, universities, research laboratories, etc., which produces output and innovations, and (ii) an

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institutional infrastructure, with venture capital at its core, which enables the creation and growth of new start-up firms (Kenney, 2004).

Governments across the globe have responded by adopting policies aimed at ensuring the availability of venture capital at the regional level. Many such policies have ended in failure however. Avnimelech et al. (2005) suggest that part of the problem has been one of conceptualisation, where the absence of VC is seen as a purely supply-side deficiency. They point to necessary demand-side factors in sustaining a VC market, noting that 'a vibrant VC industry is dependent upon a flow of investment opportunities capable of growing in value quickly enough to provide capital gains justifying the investment risks' (Avnimelech et al., 2005: 199). An inappropriate focus solely on the supply side is one of the grounds on which Mason and Harrison (2003) critique the United Kingdom (UK) regional venture capital initiative.[1]

The venture capital market expanded dramatically in Ireland in the early to mid-1990s, just as such a flow of investment opportunities emerged, primarily in the indigenous computer software sector, the most dynamic indigenous high-tech sector of the 'Celtic Tiger' era (Crone, 2004; Ó Riain, 2004).

This paper is structured as follows. The next section presents an overview of venture capital and private equity (PE) markets in the US, Europe and Ireland. The following section looks in more detail at the supply of VC and how it has been influenced by legislation and by the provision of public funds, with the latter ranging from unimportant in the case of the United States (US) to being of well above average European importance in the Irish case. This section also illustrates the very high degree of internationalisation of the Irish VC market and addresses the justification for state provision of VC funds under these conditions. The fourth section analyses the sectoral allocation of VC and the demand side of the market, investigating the role of Ireland's development agencies in directly supporting the types of firms for which VC finance is appropriate. The concluding comments focus on the co-evolution of the supply and demand sides of the VC market and seek to draw lessons of broader applicability from the Irish experience.

OVERVIEW OF VENTURE CAPITAL AND PRIVATE EQUITY MARKETS IN THE US, EUROPE AND IRELAND

Prior to 1980, venture capital financing in the US was regarded by many as a 'cottage industry'. Significant new legislation adopted around this time would influence its further development. This legislation included:

- The Revenue Act of 1978 and the Economic Recovery Tax Act of 1981, which reduced the capital gains tax rate and raised the incentives for long-term investments
- ERISA 1979 (the 'Prudent Man' Rule), which changed the investment rules for pension fund managers, allowing them to place funds in high-risk investments
- The Small Business Investment Incentive Act of 1980, which defined venture capital-type funds as companies that stimulated economic growth by encouraging entrepreneurship

- ERISA 1980 ('Safe Harbor'), which clearly distinguished between investment fund and pension fund managers. This made it possible for pension funds to be accepted as partners in venture capital funds, without the risk of incurring the same extent of liability as in the case of investment funds.

Implementation of this new legislation (amongst which the 'Prudent Man' Rule was seen by many as the most important) helped the market to develop in the 1980s. Venture capitalists of that time were instrumental in such success stories as Apple Computers, Cisco Systems, Genentech, Microsoft, Netscape, Sun Microsystems and Starbucks (Gompers, 2007). Growth was particularly dramatic in the 1990s: while the market reached a maximum of only $5.5 billion in the 1980s, the number of venture capital funds increased from 43 to 629 between 1991 and 2000, by which time capital commitments had risen to well over $100 billion. As Table 1 reveals, the US market has not yet returned to the levels prevailing before the collapse in 2000 of the dot-com bubble.

Table 1: The US Venture Capital Market (€ billions), Annual Averages

	1990–1997	1998–2000	2001–2003	2004–2006	2007–2010
Funds raised	6.4	63.9	23.6	21.7	15.4
Funds invested	4.8	57.3	26.8	18.8	17.6

Source: National Venture Capital Association (NVCA) Yearbooks. Data converted to Euros (European Currency Units (ECUs) prior to 1999) using Eurostat exchange rates

The equivalent data for Europe, which are available only for funds invested, are shown in Table 2.[2] European VC funding expanded over the 1990s as it did in the US but the bubble and subsequent downturn were far less dramatic than in the latter case. Ireland is seen to conform to the general European pattern.

Table 2: Venture Capital Funds Invested (€ billions), Annual Averages

Country	1990–1997	1998–2000	2001–2003	2004–2006	2007–2010
Europe	2.8	12.1	10.1	13.4	5.2
UK	0.7	3.4	2.6	6.1	1.3
Germany	0.5	2.6	1.6	1.1	0.8
France	0.5	1.8	1.3	1.6	1.0
Ireland	0.03	0.11	0.10	0.09	0.05

Source: Own calculations based on European Private Equity and Venture Capital Association (EVCA) Yearbooks data

Table 3 reveals that a turn-of-the-millennium bubble is much less in evidence in the aggregate private equity market. Funds raised and invested generally continued to grow until the onset of the global financial crisis, though Ireland stood somewhat apart from the general European trend.

Table 3: Private Equity Funds Raised and Invested (€ billions), Annual Averages

Countries	1990–1997	1998–2000	2001–2003	2004–2006	2007–2010
FUNDS RAISED					
Europe	6.9	31.3	31.5	70.5	49.4
UK	3.4	12.2	16.6	43.6	26.7
Germany	0.7	3.9	2.2	2.6	2.4
France	1.0	5.2	4.1	8.2	5.5
Ireland	0.05	0.23	0.16	0.05	0.17
FUNDS INVESTED					
Europe	5.6	24.9	27.0	51.7	48.3
UK	2.4	10.6	10.3	27.9	21.3
Germany	0.7	3.3	3.1	3.3	5.6
France	1.0	3.3	4.5	7.5	7.5
Ireland	0.03	0.13	0.17	0.09	0.13

Source: Own calculations based on data from EVCA. Converted where necessary to Euros (ECUs prior to 1999) using Eurostat exchange rates

A large part of the European private equity industry constitutes buyout transactions, particularly for the UK (Figure 1).[3] The Irish situation is quite different.

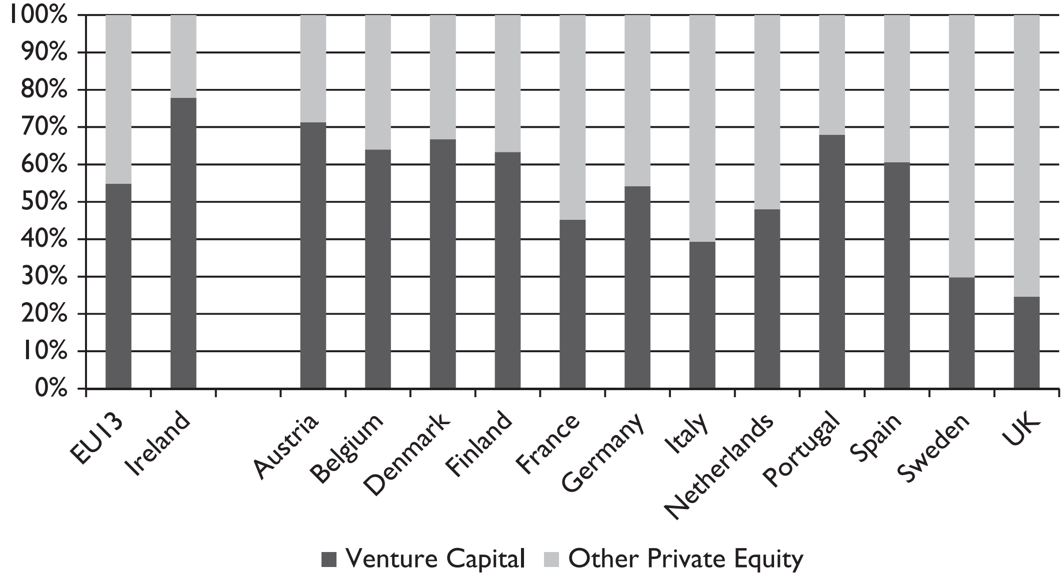
Buyout transactions constituted only a very small part of all private equity transactions in Ireland other than in 2003 and 2007 (Figure 2).

These two years, 2003 and 2007, represented the highest volumes of funds ever invested by Irish VC funds, with the vast bulk of the investments occurring in Ireland. Of the €255 million invested in 2003, for example, only €13 million went overseas, as will be shown later (Figure 9). The remainder included seven buyout transactions totalling €176 million.[4]

Figure 3 expresses venture capital investments as a share of national income. Even for the US at the height of the dot-com bubble, investments per annum came to less than 1 per cent of gross domestic product (GDP). Ireland until the second half of the 2000s recorded values close to the EU15 average, even though it is likely that Irish indigenous firms – which make up the demand side of the VC market – are less concentrated in high-tech sectors than would be the case for the EU15.[5]

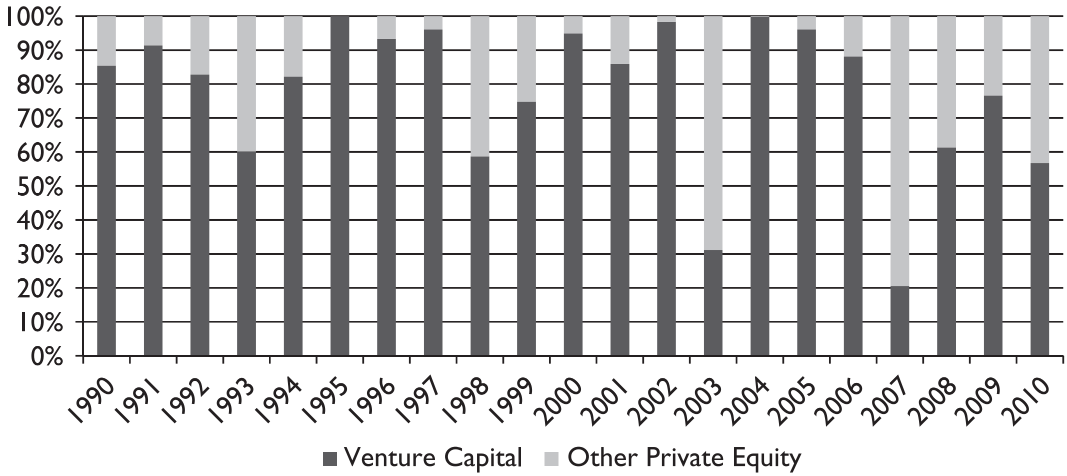
Figure 4 provides data on the breakdown of VC finance between funds committed to the early seed and start-up phases and the expansion phases of enterprise development. The share of early stage financing in Ireland changed substantially over the years, with expansion phase projects predominant prior to 1998. Since then, Ireland has been far above both the European average and the US in terms of the proportion of VC finance going to early stage investments.

Figure 1: Venture Capital Investments as a Share of all Private Equity Transactions (Average Annual Percentage, 1990–2010)



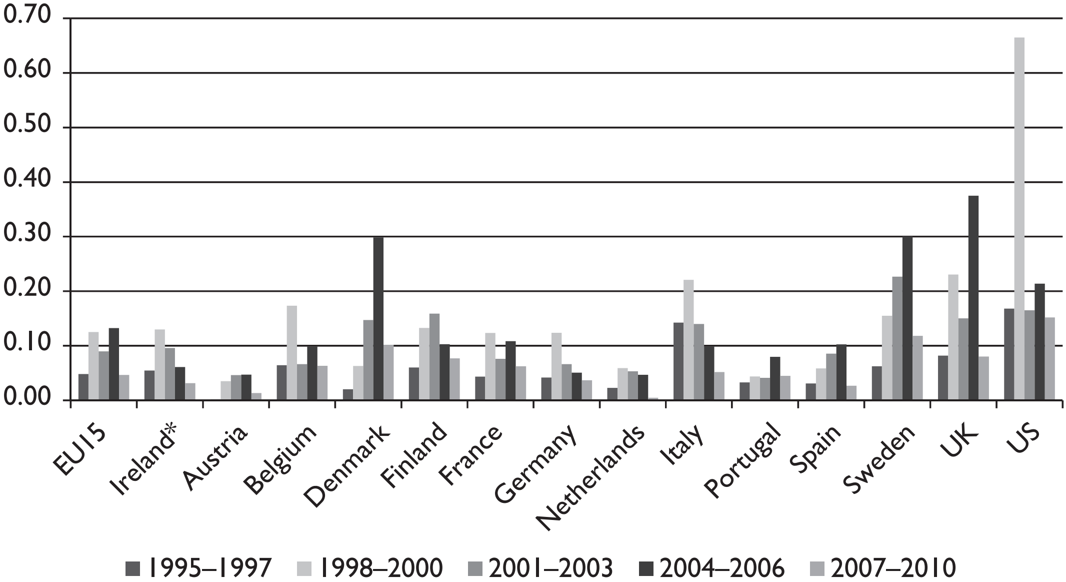
Note: 'EU13' refers to the EU member states shown here.
Source: Own calculations based on EVCA data

Figure 2: Venture Capital Investments as a Share of all Private Equity Transactions in Ireland (1990–2010)



Source: Own calculations based on EVCA data

Figure 3: Venture Capital Investments as a Percentage of National Income (Average Annual Percentage)



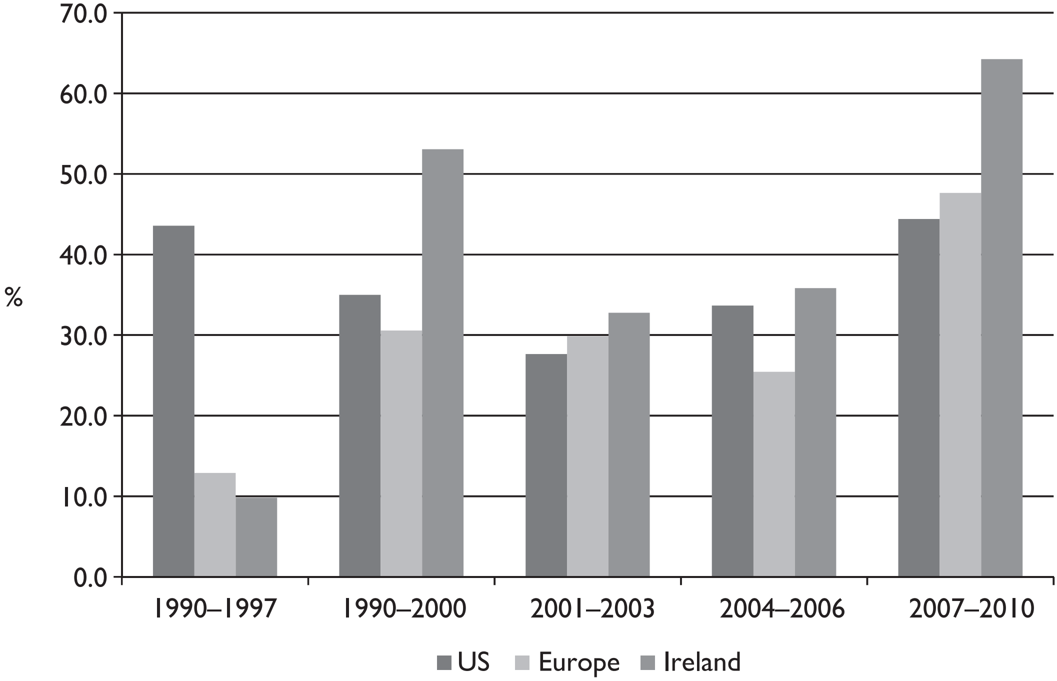
Note: Gross national product for Ireland, except where included as part of EU15; gross domestic product for all other countries. Venture capital data for Luxembourg are only included from 2007
Source: Own calculations based on EVCA and NVCA data

Table 4: Mode of Exit (Average Annual Percentage)

	Ireland		Europe	
	1998–2003	2004–2010	1998–2003	2004–2010
Trade sales	46	42	35	26
Divestment by public offering	7	4	15	11
• *Divestment on flotation (IPO)*	1	0	6	5
• *Sale of quoted equity*	7	4	8	6
Write-offs	18	26	14	12
Repayment of principal loans	11	4	13	13
Sale to another private equity house	5	8	8	22
Sale to a financial institution	0	1	5	4
Other modes	12	14	10	13

Source: EVCA data

Figure 4: Early Stage (Seed and Start-Up) Investments as Share of Total Venture Capital Investments (Average Annual Percentage)



Source: Own calculations based on EVCA and NVCA data

By contrast, there is not much difference between Ireland and the rest of Europe in terms of mode of exit (Table 4). Trade sales have been predominant, representing a somewhat higher share for Ireland than for the rest of Europe. Write-offs were also higher for Ireland. The US data on mode of exit distinguish only between acquisitions and VC-backed initial public offerings (IPOs), with the ratio of the former to the latter running at around 3 to 1.

EXPANDING THE SUPPLY OF VENTURE CAPITAL IN IRELAND

Early developments in the Irish venture capital market included the establishment by the Industrial Development Authority (IDA) of its Enterprise Development Programme in 1978; the establishment of the National Enterprise Agency in 1981, its replacement by the National Development Corporation in 1986 and its amalgamation with the IDA in 1991; and the introduction of the Business Expansion Scheme in 1984 and the Seed Capital Scheme in 1993.

The Irish Venture Capital Association (IVCA) was founded in 1985 and had three members by the end of the 1980s. These were (i) Allied Combined Trust, established in 1972 with Allied Irish Investment Bank as a major shareholder; (ii) the Industrial Credit Company, established by the state in the 1930s to encourage investment in industry, and

(iii) the Dublin Business Innovation Centre, established in 1987 with private, public and European Union (EU) support.

A number of significant changes were introduced in 1994, which proved to be a crucial year in the development of the Irish VC market (Murphy, 2000; Jeng and Wells, 2000). One was the establishment in Irish law of 'the investment limited partnership', which had proved a suitable vehicle for venture capital activities in the US. It provides double taxation relief such that investments through qualifying venture capital funds are treated as though they are direct investments in the underlying companies.[6]

The same year also saw the publication of government guidelines advocating that pension funds 'support the venture capital industry by becoming a recognised form of finance for entrepreneurial companies' (Murphy, 2000: 46). The guidelines had their origins in a report commissioned by the Irish Association of Pension Funds, the Irish Insurance Federation and the Department of Finance, which found that pension-fund investments in Ireland were negligible in comparison to the situation in the US and the UK. The guidelines were issued as an alternative to legislation and advocated that pension funds should place 0.08 per cent of their assets annually into venture capital funds over the next five years. Since then, the proportion of new funds accounted for by the pension funds sector in Ireland has fluctuated around the European average level.

From 1994 the state's industrial development agencies also adopted new policies towards venture capital. One strand of the new approach saw them shift away from grant assistance towards equity participation in companies to which they advanced support. This had been advocated in the report of the Industrial Policy Review Group (the Culliton Report of 1992) 'to meet gaps in financial markets for venture capital and seed capital' (Industrial Policy Review Group, 1992: 12). The IDA, it was suggested, should become more of an 'aggressive venture capitalist' (Industrial Policy Review Group, 1992: 72) and should be prepared to take stakes of up to 50–60 per cent in the companies it supported. To fulfil these tasks adequately, the report advised that the IDA should be restructured into separate bodies, which eventually emerged as Forfás, with responsibility for research and policy; IDA Ireland, with responsibility for foreign direct investment; and Enterprise Ireland, with responsibility for indigenous industry. This equity participation approach will be discussed in a later section of the paper which focuses on the demand side of the VC market (since it directly supports the kinds of firms that are likely to seek or attract VC finance).

The other strand of the new approach was to expand the availability of venture capital by investing state capital, through Enterprise Ireland, in commercial VC funds.[7] The Indigenous Industry Operational Programme for Industrial Development, a sub-section of the National Development Plan 1994–9, had identified as important the difficulties that small and medium enterprises (SMEs) faced in raising equity capital. This led to the establishment by Enterprise Ireland of the Seed and Venture Capital Measure 1994–9, which had the objectives of (i) making seed and equity capital available to SMEs, primarily in the knowledge economy; (ii) developing the seed and venture capital market in Ireland; (iii) encouraging private sector participation; and (iv) developing seed and VC management skills.

EU and national funding of the measure amounted to a total of €40 million and this was matched at the beginning by a further €40 million in private investments. The VC funds established were run on a purely commercial basis, with investment decisions taken solely by private sector VC fund managers. Returns were to be fed back into the funds and a ten-year lifecycle was envisaged, with a five-year investment period and five years in which to exit and realise returns.

In 2001, the Seed and Venture Capital Fund Scheme was recommenced under the National Development Plan 2001–6 with a commitment of national and EU funds amounting to €95 million. The objective of the programme was to leverage €400 million in private funding. This had already been achieved by 2002, and by 2004 the 15 funds established under the programme (with about €500 million in capital raised) had made investments in 75 companies totalling €133 million (Enterprise Ireland, 2005). By 2005 the state commitment to 30 VC funds had totalled €164 million (€66 million in total in the first programme and €98 million in the second), and about €30 million in returns had been received. The 2000–6 programme was followed by a further Seed and Venture Capital Programme set to run from 2007 to 2012, with an Enterprise Ireland commitment of €175 million.

In Europe as a whole, government provision of VC funds also grew over this period. It has typically contributed a smaller share than in Ireland since the initiatives of the mid-1990s, and the contrast has grown dramatically in recent years (Table 5). In the US, by contrast, the government plays no direct role in the provision of venture capital.

Table 5: Sources of New Funds – Europe, Ireland and the US (Average Annual Percentage by Type of Investor)

		1990–1997	1998–2000	2001–2003	2004–2006	2007–2010
Corporations	*Europe*	8	11	6	5	3
	Ireland	5	5	2	0	1
	US	6	5	6	5	2
Financial institutions	*Europe*	51	40	36	29	19
	Ireland	46	28	18	22	16
	US	11	11	9	8	5
Government	*Europe*	5	5	8	8	6
	Ireland	9	9	18	10	34

Note: Figures do not sum to 100 because some categories of investor (particularly private investors and pension funds) are excluded
Source: Own calculations based on EVCA and NVCA data; exchange rates from Eurostat

Table 6 shows that of the European countries for which data are available, Portugal, Ireland, Austria and Finland record the highest shares for government as a source of new funds. Portugal and Austria, as has been seen in Figure 3, have very small VC sectors relative to GDP, while Finland is at the opposite end of the spectrum.

Table 6: Sources of New Funds for European Economies (Average Annual Percentage by Type of Investor, 1994–2010)

Countries	Corporations	Private	Financial Institutions	Pension Funds	Government
Austria	4	5	51	3	17
Belgium	11	7	40	5	13
Denmark	7	7	28	27	9
Finland	7	2	28	23	15
France	8	8	47	11	3
Germany	8	8	49	6	11
Ireland	3	9	25	17	19
Italy	7	10	47	7	3
Netherlands	5	5	5	12	2
Portugal	3	1	54	4	31
Spain	9	6	42	7	12
Sweden	9	4	20	21	6
UK	6	5	26	32	5

Note: Country figures do not sum to 100 because some categories of investor are omitted
Source: Own calculations based on EVCA data

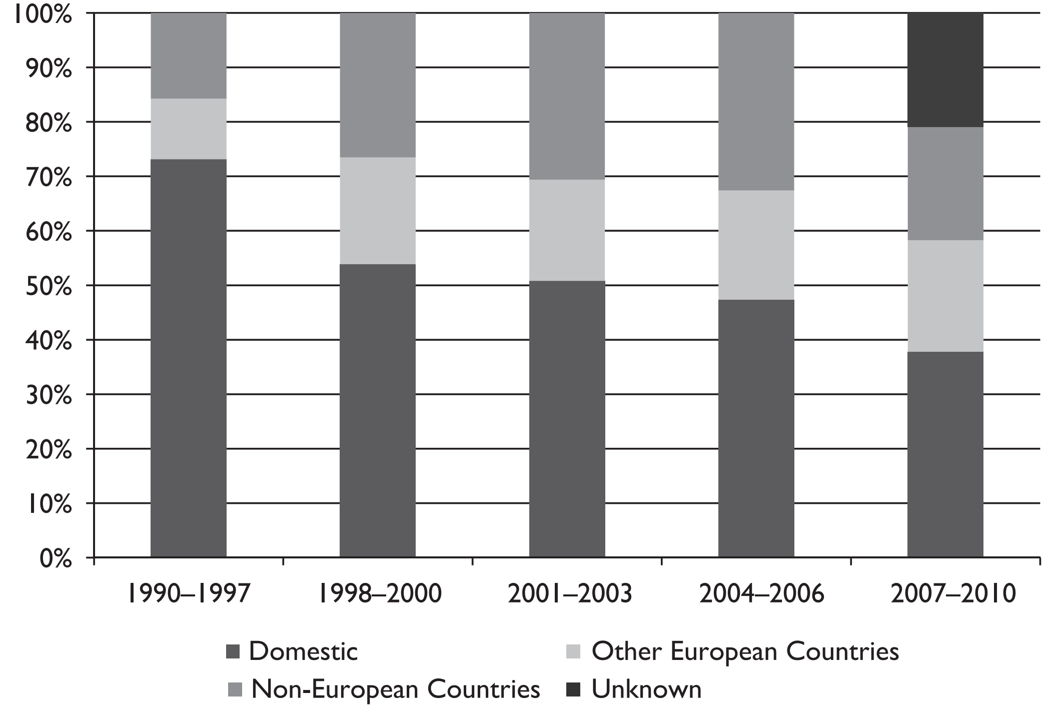
As noted earlier, the VC data are generally classified according to the 'country of management' approach, i.e. they refer to locally managed funds only. VC funds which are managed in a particular country can be raised from both domestic and non-domestic investors however. Funding sources in both Europe and Ireland have become increasingly internationalised over the period of analysis. Figure 5 shows that for European countries on average funds raised from non-domestic sources grew from less than one-third of the total in the early 1990s to over one-half of the total in more recent years.

Funds managed in Ireland displayed a much weaker degree of internationalisation (Figure 6), though the year 2002 stood out as exceptional, with more than 90 per cent of the capital raised that year coming from outside Ireland.

Figure 7 displays the propensity of European-managed funds to invest overseas while Figure 8 shows that Irish-managed VC funds have come to match this propensity to invest overseas over recent years.

We now depart briefly from the 'country of management' approach to explore how much funding is raised in Ireland and how much is invested in Ireland (in each case by European-managed funds only). These are described in the European Private Equity and

Figure 5: Geographical Sources of Funds Raised by the European Private Equity Industry (Average Annual Percentages, 1990–2010)



Source: Own calculations based on EVCA data

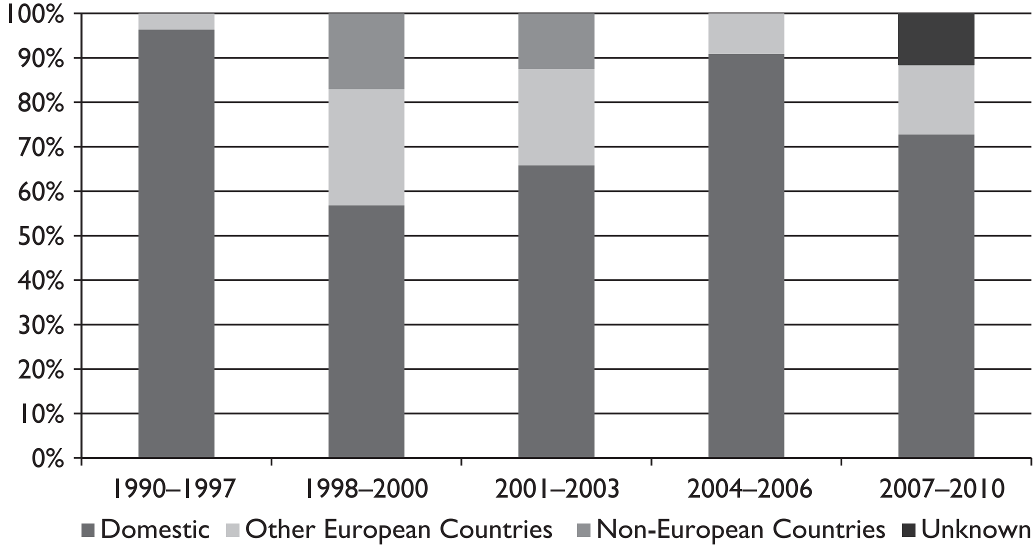
Venture Capital Association (EVCA) statistics as the 'country of origin' approach for funds raised, and the 'country of destination' approach for funds invested.[8]

Figure 9 presents data on funds raised and funds invested in Ireland for the period 1999–2003, comparing 'country of management' and 'country of origin' for funds raised, and 'country of management' and 'country of destination' for investments.

The major asymmetries on the 'funds raised' side arise in 1999 and 2002.[9] In both of these years the amounts raised from foreign investors were larger than those raised from domestic investors. This indicates substantial net flows of funds raised. A similar situation can be observed on the investment side. In 1999, 2003, 2009 and 2010 much greater investments were made in domestic industry than came from domestically managed VC funds. The greatest asymmetry arose in 2010, when investments in Ireland ('country of destination') were €770 million, while funds invested by Irish-managed funds were only €48 million.

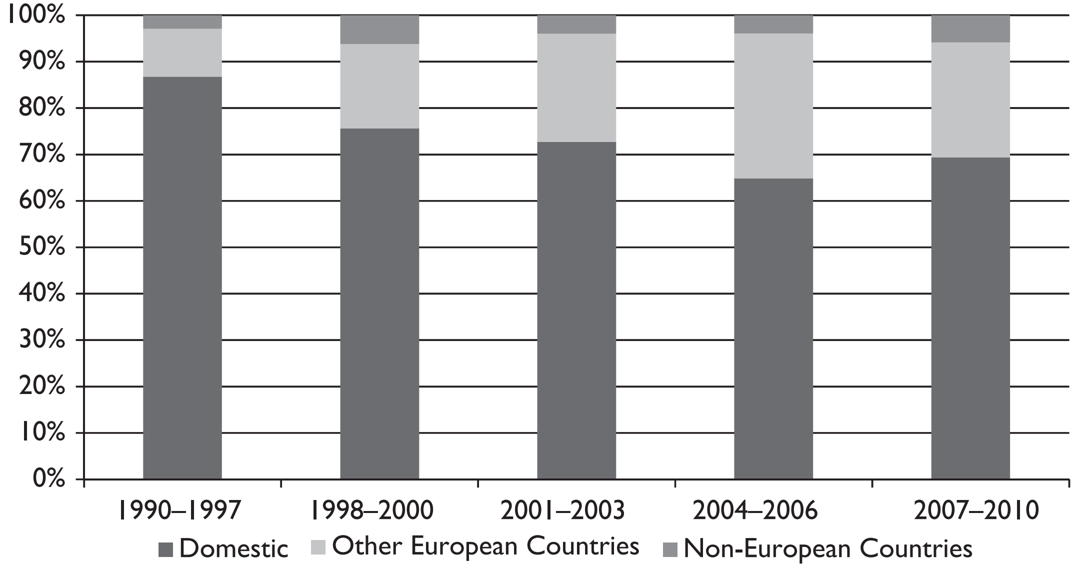
A comparison with other countries reveals how internationalised, or, more precisely, Europeanised, the Irish market is compared to other European countries.[10] For the period 1999–2006 Ireland exhibited the greatest average net inflows for all European countries for funds invested and the second highest, after Sweden, for funds raised (see Figure 10).

Figure 6: Sources of Funds Raised by the Irish Private Equity Industry, Geographical Breakdown (Average Annual Percentages, 1990–2010)



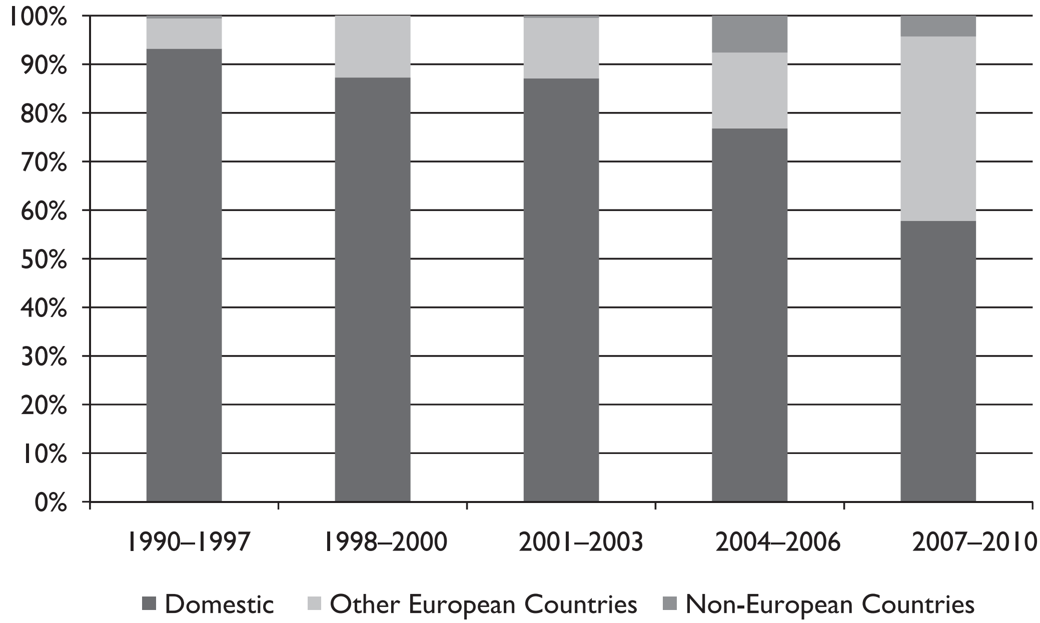
Source: Own calculations based on EVCA data

Figure 7: Geographical Destination of Funds Invested by the European Private Equity Industry (Average Annual Percentages, 1990–2010)



Source: Own calculations based on EVCA data

Figure 8: Geographical Destination of Funds Invested by the Irish Private Equity Industry (Average Annual Percentages, 1990–2010)



Source: Own calculations based on EVCA data

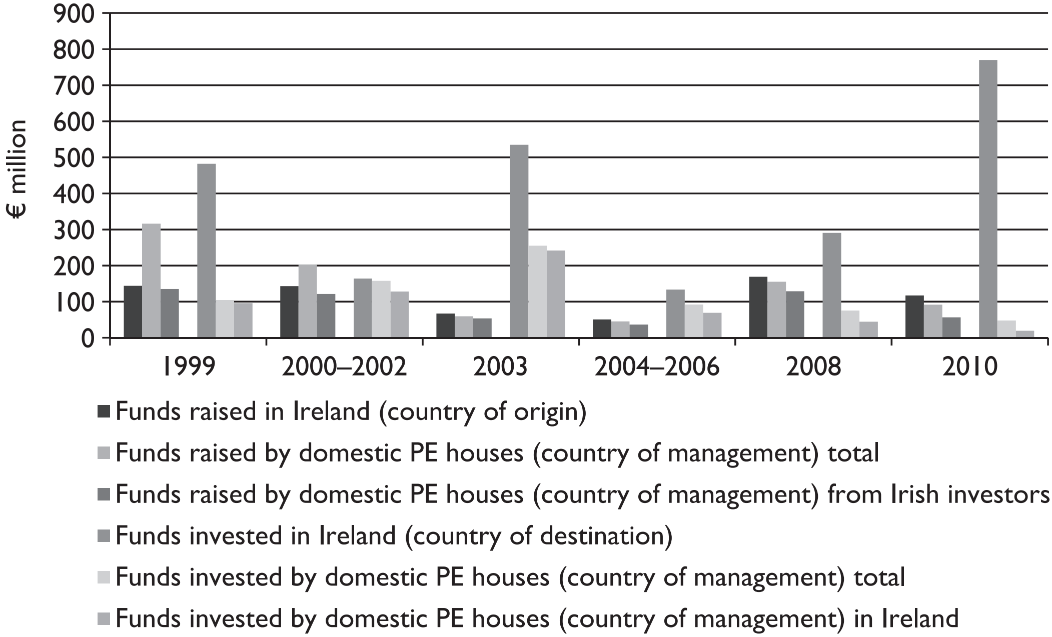
On average over the period, net inflows of investment into Ireland (i.e. the excess of foreign VC fund investments in Ireland over Irish VC fund investments overseas) came to almost 200 per cent of domestic investments by domestic VC funds. In terms of the countries charted, all were net recipients of investment other than Sweden and the UK.

For Ireland, net inflows of funds from abroad (i.e. the excess of overseas funds coming to domestic venture capital companies over funds raised in Ireland by foreign companies) represented, on average, 66 per cent of funds raised in Ireland by Irish venture capitalists. Net recipients of funds in this sense included Ireland, Italy, Portugal, Spain, Sweden, the UK and, to a lesser extent, France and Finland, whereas Belgium, Denmark, Germany, the Netherlands and, to a lesser extent, Austria, were net sources of funds.

The equivalent data for 2010 are as shown in Table 7. The percentage figure for net inflows of funds invested for Ireland is so large because funds invested in Ireland from abroad came to €751 million, funds invested abroad by Irish investors came to €27 million, and domestic investment by domestic VC funds was only €19 million (in rounded figures).

Given the internationalisation of the Irish VC market, the question arises as to why it is perceived as important for the government – acting through Enterprise Ireland – to create a local VC market, since there appears to be many more investment opportunities in Ireland

Figure 9: Comparison of 'Country of Management', 'Country of Origin' and 'Country of Destination' Figures (Ireland, Selected Years)



Note: Average annual values where years have been aggregated. Some of the data for 2007 and 2009 are unavailable
Source: Own calculations based on EVCA data

Table 7: Net Flows (%) Raised and Invested in Ireland and Other European Countries, 2010

Countries	Net Flows (Funds Invested)	Net Flows (Funds Raised)
Austria	700	-8
Belgium	192	-6
Denmark	-1	-4
Finland	55	-44
France	14	18
Germany	1	-20
Ireland	3,740	-44
Italy	53	-47
Netherlands	67	100

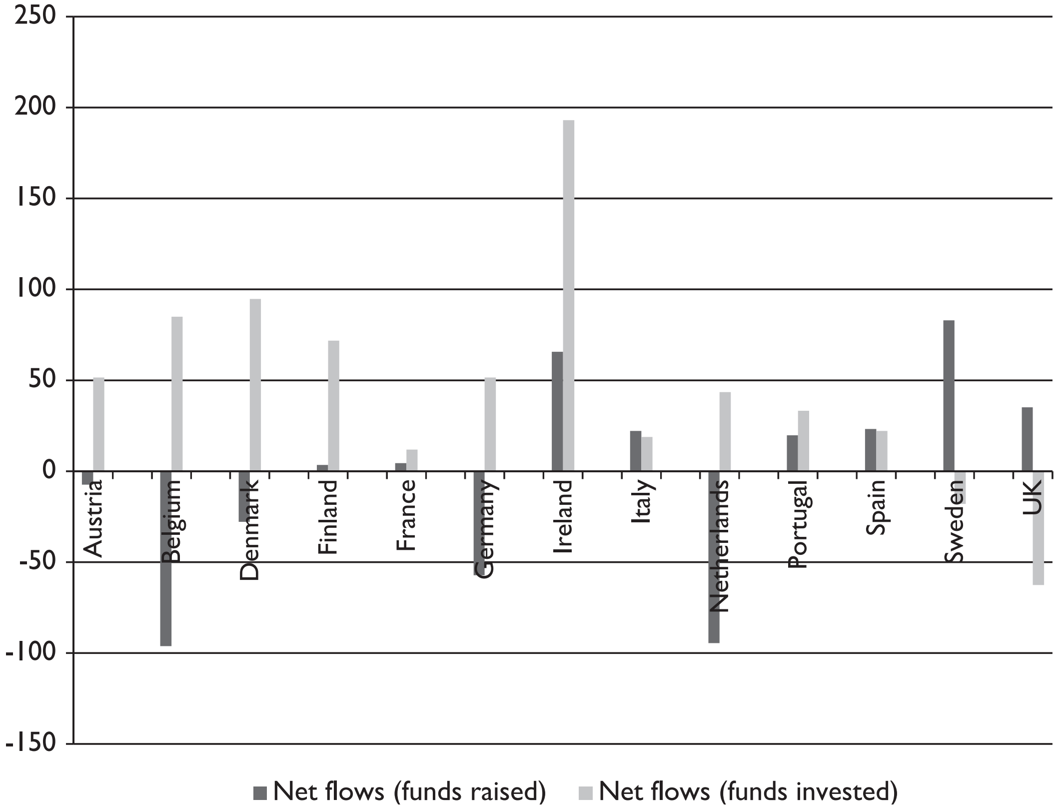
(*Continued*)

Table 7: (*Continued*)

Countries	Net Flows (Funds Invested)	Net Flows (Funds Raised)
Portugal	-1	56
Spain	19	2
Sweden	-17	68
UK	-37	46
Europe	4	0

Source: Own calculations based on EVCA data

Figure 10: Flows in Funds Raised and Invested in Ireland and Other European Countries (Average Annual Percentages, 1999–2006)



Source: Own calculations based on EVCA data; data for 2007 and 2009 unavailable than Irish investors are able or willing to finance, and Irish companies themselves are not biased against foreign investors.[11]

The answer is suggested by Florida and Kenney (1988) who, in discussing the localised nature of the VC process, point out that although long-distance investing occurs when deals are syndicated between several VC firms, the presence of a local venture capitalist to lead the deal is generally essential. Similarly, practitioners point out that when foreign venture capitalists invest in the Irish market, they usually do so by co-investing (syndication) with Irish venture capitalists.[12] If they invest directly, in turn, it tends to be in companies with some track record, financing later stage transactions (post first or even post second round financing) and frequently only when domestic VC is already in place.[13] Unfortunately, data provided by the EVCA do not specify the stages of transactions in which non-domestic private equity houses are involved, making it difficult to ascertain whether the investments are in VC projects or in other private equity transactions.

THE SECTORAL LOCATION OF VC INVESTMENTS AND THE DEMAND SIDE OF THE MARKET

Although at the beginning of the 1990s Irish VC investment activity was directed towards more traditional consumer-related and other manufacturing sectors, towards the late 1990s it began to focus on 'new technology' – i.e. on communications and computer and consumer electronics – with life sciences becoming important over the new millennium (Table 8).

Table 8: Sectoral Distribution of Investments in Ireland (Average Annual Percentages, 1990–2010)

Sectors	1990–1997	1998–2000	2001–2003	2004–2006	2007–2010
Communications	7.8	15.9	14.3	16.2	21.9
Computer and consumer electronics	13.3	51.4	72.5	49.8	20.9
Life sciences	4.4	3.4	6.5	18.0	20.6
Energy and environment	0.6	0.2	0.4	0.0	4.2
Consumer goods and retail	36.5	3.4	1.0	10.5	4.4
Consumer services	n/a	n/a	n/a	n/a	3.7
Business and industrial products	15.5	15.4	3.0	2.2	4.4
Business and industrial services	5.4	5.5	1.9	0.7	1.3
Chemicals and materials	3.0	0.3	0.1	2.3	0.3
Transportation	4.8	0.0	0.2	0.0	7.8
Financial services	0.4	0.0	0.1	0.0	0.1
Real estate	n/a	n/a	n/a	n/a	0.0

(*Continued*)

Table 8: (*Continued*)

Sectors	1990–1997	1998–2000	2001–2003	2004–2006	2007–2010
Agriculture	1.3	1.1	0.0	0.0	0.2
Construction	5.2	1.6	0.0	0.0	3.0
Unknown	0.2	1.7	0.1	0.2	7.1
Total investment	100.0	100.0	100.0	100.0	100.0

Note: EVCA sectoral classifications changed in 2007; prior to this 'consumer services' and 'real estate' did not exist as separate categories
Source: Own calculations based on EVCA data

In Europe, on the other hand, although there was some shift towards communications over the new millennium, more traditional sectors (consumer goods, and business and industrial products) remained strong throughout the period of analysis (Table 9).

Table 9: Sectoral Distribution of Investments in Europe (Average Annual Percentages, 1990–2010)

Sectors	1990–1997	1998–2000	2001–2003	2004–2006	2007–2010
Communications	3.3	11.3	13.3	14.2	12.4
Computer and consumer electronics	9.5	14.1	10.2	7.7	7.2
Life sciences	6.1	8.2	9.9	9.8	12.4
Energy and environment	1.5	1.0	1.7	2.0	5.9
Consumer goods and retail	21.2	17.4	18.9	22.0	14.8
Consumer services	n/a	n/a	n/a	n/a	8.2
Business and industrial products	24.3	19.0	18.7	15.6	12.1
Business and industrial services	10.6	7.9	8.0	11.5	9.3
Chemicals and materials	3.6	3.6	4.0	2.5	3.5
Transportation	5.4	5.5	3.4	2.5	3.8
Financial services	4.3	2.2	2.9	3.6	6.0
Real estate	n/a	n/a	n/a	n/a	0.3
Agriculture	1.5	0.9	0.5	0.3	0.6
Construction	4.1	2.2	3.8	2.5	2.9
Unknown	4.4	6.7	4.8	5.8	0.6
Total investment	100.0	100.0	100.0	100.0	100.0

Note: EVCA sectoral classifications changed in 2007; prior to this 'consumer services' and 'real estate' did not exist as separate categories
Source: Own calculations based on EVCA data

Across the Atlantic, VC investments also focus on new technology sectors, although they are more evenly distributed across these sectors, including in the biotech and medical and health-related areas (Table 10).

Table 10: Sectoral Distribution of Investments in the US (Average Annual Percentages, 1990–2010)

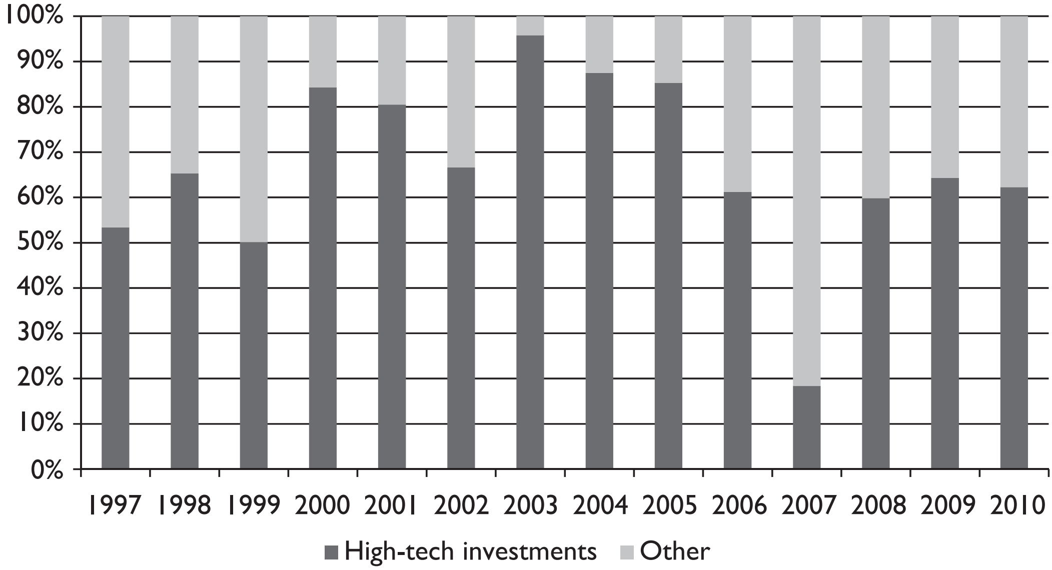
Sectors	1990–1997	1998–2000	2001–2003	2004–2006	2007–2010
Biotechnology	12.2	5.1	14.4	17.6	17.4
Business products and services	2.3	4.4	2.7	1.7	1.7
Computers and peripherals	5.2	1.7	1.9	2.3	2.0
Consumer products and services	4.8	3.6	1.1	1.4	1.8
Electronics/instrumentation	2.0	0.8	1.1	2.0	1.9
Financial services	2.6	3.9	2.3	2.6	2.1
Healthcare services	4.7	2.7	1.4	1.6	0.9
Industrial/energy	6.7	4.3	3.3	4.9	13.9
Information technology services	2.4	7.2	4.8	4.5	6.7
Media and entertainment	6.7	10.5	4.5	5.2	6.5
Medical devices and equipment	10.1	3.5	7.1	9.5	12.2
Networking and equipment	7.2	9.1	11.9	6.1	3.9
Semiconductors	3.7	3.0	7.5	8.7	5.2
Software	18.4	21.6	24.8	21.6	18.2
Telecommunications	8.2	14.7	10.5	9.2	4.7
Undisclosed/other	0.3	0.2	0.0	0.1	0.0
Total	100.0	100.0	100.0	100.0	100.0

Source: Own calculations based on NVCA data

Although investments in high-tech sectors frequently involve investments in high-tech projects, there is no necessary overlap between the two categories; account must be taken of the quality and type of the specific investments involved. The EVCA began to record investments in high-technology *projects* from 1997 and Figure 11 presents data on Irish VC investments in such projects for the period 1997–2003.

Figure 12 charts various national VC markets in terms of the share of VC investments in early stage and in high-technology projects. Of the European countries for which data are available, Ireland appears to be something of an outlier, with high proportions of both early stage investments and high-tech investments in the total.

Figure 11: Investments in High-Tech Projects in Ireland (Share of Total Amount of Private Equity Investments, 1997–2010)



Source: EVCA data

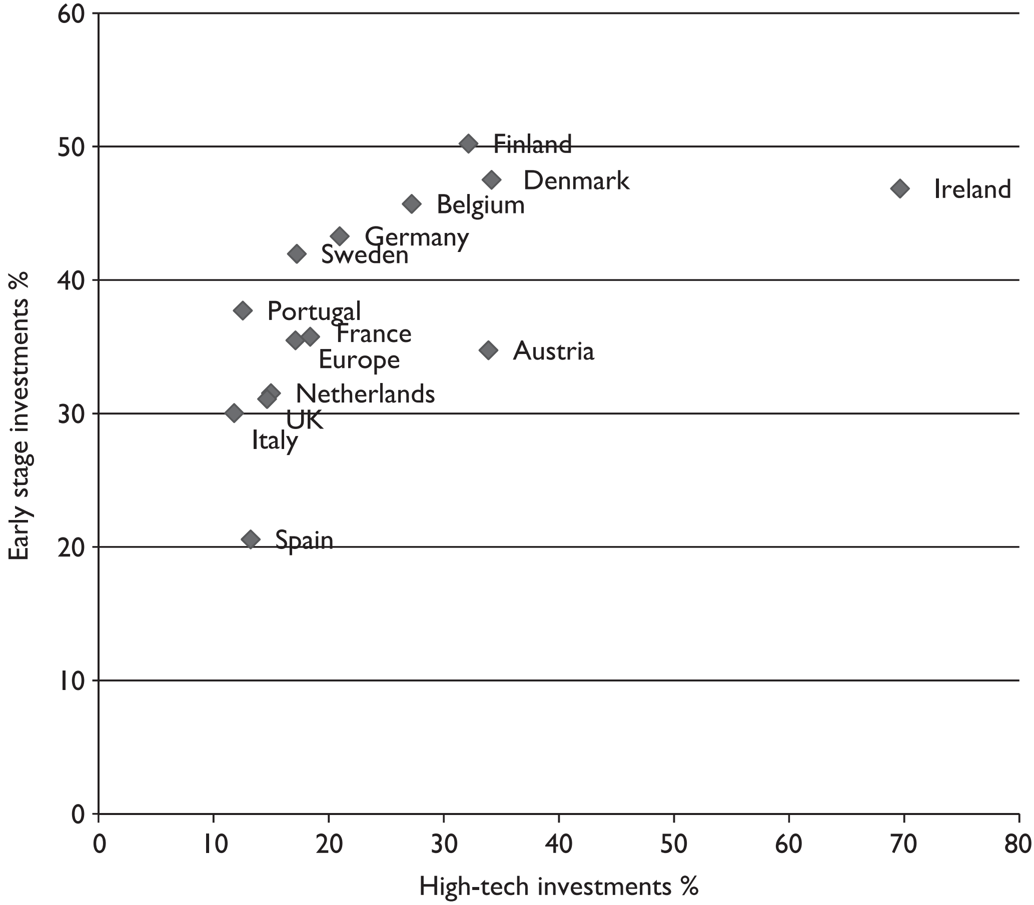
Besides seeding the emergence of venture capital, the Irish state also offers direct hands-on support to the types of firms for which venture capital is an appropriate financing vehicle. Indeed supports for the demand side are a multiple of the supports for the supply side of the VC market discussed heretofore. One form of such direct support is equity participation. Following the recommendation of the Industrial Policy Review Group (1992), equity participation – in the form of both ordinary shareholdings and preference shares – on the part of what would become Enterprise Ireland increased from 5 per cent of total financial supports in 1989 to 28 per cent in 1998 (Forfás, 2000, Table 5.2).[14] Table 11 shows that Enterprise Ireland's direct equity participation in the companies it supports exceeds the sum total of funds provided by Enterprise Ireland to private sector VC managers to support companies of their own choosing.[15]

Table 11: Direct Enterprise Ireland Investments versus Enterprise Ireland Seed and Venture Capital Investments (€ millions) (Four-Year Totals, 1999–2010)

Investments	1999–2002	2003–2006	2007–2010
Direct Enterprise Ireland investments	83.90	95.00	172.84
Enterprise Ireland Seed and Venture Capital investments	91.62	46.68	51.65

Source: Enterprise Ireland Financial Statements 2000–2010

Figure 12: Early Stage and High-Tech Investments – Comparison of Ireland and Other European Countries (2000–2010 Average)



Note: Percentages of total amounts invested in each market. Early stage investments are presented as a share of venture capital investments. High-tech investments are presented as a share of private equity transactions
Source: Own calculations on the basis of EVCA data

This reflects the fact that Enterprise Ireland, as a development agency, has different motives from those of the VC companies, which seek only to maximise returns. The priority for the state agencies has been to develop knowledge-based industries in Ireland because of possible spill-over benefits and other market imperfections, rather than to achieve the best return on their investments.

Most Enterprise Ireland support is targeted towards the very small number of indigenous companies that it identifies as High-Potential Start-Ups (HPSUs). Of the hundreds of thousands of new business start-ups in the country over the period 1989–2006, only 637 were selected by Enterprise Ireland as HPSUs. Loosely, these are export-oriented firms with innovative products in dynamic market segments that are deemed capable of meeting rigorous growth targets.[16]

To be deemed eligible for support (though with no automatic entitlement), projects must first successfully pass a formal cost–benefit analysis, while qualitative and other factors that are difficult to quantify are then taken into account in a quality ranking matrix.[17] Enterprise Ireland has in fact worked with the majority of these HPSUs from embryonic concept stage to the point where they were formally recognised as HPSUs. Supports available from the embryonic stage are dependent on agreement with the agency on an integrated development plan, and the agency then customises a support package that can include helping companies to monitor markets and exploit new market opportunities, encouraging process and operations improvement and the development of better products through access to appropriate research, and promoting increased management and employee training levels.

The agency works intensively with the HPSUs to ensure access to the best external management advice; it helps them to attract expertise to their boards – e.g. through the appointment of experienced non-executive directors – and to build an appropriate management team; it provides support for in-company training and for product and process development through direct support for in-company research and development (R&D) and through establishing technology innovation networks; and it helps them develop contacts with private sector financiers. It may also, where necessary, offer direct financial support (Forfás, 2000).

Ó Riain (2004: 98–105) suggests that the mentoring programmes that pair small companies with experienced industry figures and the Enterprise Development Programme, which provides one-on-one support and advice in terms of business plan development, have been of particular importance to indigenous software firms and, indeed, according to Walsh (1985), the latter had been instituted in 1978 partly in response to the lack of venture capital finance available at that time. The state has also extensively subsidised the R&D expenditures of indigenous software companies.

CONCLUSIONS

Drawing primarily on the Israeli experience, Avnimelech and Teubal (2008) present an innovation and technology policy cycle model of the emergence of innovation-intensive clusters in industrialising economies. The early phase identified in the model relates to the emergence of innovation capabilities and the diffusion of R&D across the economy. The background conditions were established in Israel in the wake of the Six Day War of 1967, which saw a sharp increase in military R&D spending, significant investments by foreign multinationals in R&D laboratories and a state-orchestrated process to expand innovation in the business sector.

The second phase of the model sees venture capital emerge, alongside an acceleration in the growth of high-tech start-ups, and IPO and mergers and acquisitions (M&A) activities. Avnimelech and Teubal (2008) describe how VC funding was purposefully developed by the Israeli state, after a number of false starts, through the enduring Yozma Program of

1993. This government-owned VC fund invested directly in early-stage activities as well as operating as a fund of funds invested through private VC companies.

More generally, Avnimelech et al. (2005) caution that the emergence of a dynamic regional or national VC market requires not just that supply-side shortages of funds be addressed but also that appropriate demand-side conditions prevail, notably 'a flow of investment opportunities capable of growing in value quickly enough to provide capital gains justifying the investment risks' (Avnimelech et al., 2005: 199).

The Irish experience corresponds in broad detail to that of Israel, though clearly without a parallel role for the security and defence industries. Table 12 shows that Irish gross expenditures on R&D have risen as a share of both EU and Organisation for Economic Co-Operation and Development (OECD) expenditures over the period under discussion, suggestive of the spread of innovation capabilities representing Phase 1 of the Avnimelech and Teubal (2008) model.

Table 12: Gross Domestic Expenditure on R&D in Ireland as a Percentage Share of EU27 and OECD, 1995–2009

	1995–1997	1998–2000	2001–2003	2004–2006	2007–2009
Ireland as share of EU27	0.63	0.68	0.71	0.87	0.97
Ireland as share of OECD	0.19	0.20	0.22	0.26	0.29

Source: OECD, Main Science and Technology Indicators database

In Ireland, as in Israel, there was substantial government support of business sector R&D and innovative start-up companies. Table 13 provides a measure of the Irish state's increasing participation in the funding of R&D. While the share of R&D financed by government has declined in both the EU and the OECD over the period depicted, it has risen in Ireland.

Table 13: Percentage of Gross Expenditure on R&D Financed by Government – Ireland, EU27, OECD

	1995	2003	2004	2005	2006
Ireland	22.5	29.8	31.1	32	30.1
EU27	39.5	35.8	35.6	34.8	34.1
OECD	33.9	30.1	30.2	29.4	28.6

Note: missing observations confine our analysis to the years shown
Source: OECD, Main Science and Technology Indicators database

Again as in the Israeli case, government provision of direct support to the VC sector only came on stream once innovative start-up companies began to appear. Avnimelech and Teubal (2006) argue that the background conditions in Israel would have been unlikely to trigger the necessary supply of VC without government involvement because of market or system failures. This proposition would seem to apply in the Irish case also.

It appears too early to be able to say in the Irish case however – as has been said of Israel – that the authorities can now take a back seat in the VC process.[18] A background report undertaken by PricewaterhouseCoopers for the state agency Forfás in 2006 suggested not only that most Irish VC funds were below what would be regarded as a commercially viable size (of at least €40–€50 million) but also that the VC market in Ireland had not yet reached a point where it could be considered sustainable in its own right (Strategy Advisory Services, 2006). Three reasons were offered for this assessment. Firstly, it is difficult to assess performance in such a relatively young market. Secondly, the downturn in the technology sector represented a serious obstacle, and thirdly, it was thought that state withdrawal of funds at this time would send a negative signal both to local institutional investors and to overseas investors, who tend to look to the local market for evidence of support for VC.[19] This is in spite of the fact that Ireland ranked second only to the UK in an evaluation by the EVCA (2003) of the favourability of the legal and tax aspects of the environment to venture capital investors and entrepreneurs.

The task of developing a self-sustaining VC sector is clearly not straightforward. Nor are the kinds of interventionist strategies followed in the Irish and Israeli cases necessarily appropriate to all emerging regions. The weaker the standards of public sector governance, the more the calculus shifts from correcting market failures to avoiding likely 'government failures'.

ACKNOWLEDGEMENTS

We thank Garrett Murray of Enterprise Ireland for helpful discussions and suggestions, and Morris Teubal for stimulating our initial interest in the subject.

ENDNOTES

1 An alternative perspective is advanced by Gorodnichenko and Schnitzer (2010) however. They find that financial constraints restrain the ability of firms to both innovate and export, and cause export and innovation activities to become substitutes rather than complements.

2 Both the US and European data generally follow the *country of management* approach, meaning that they refer to the activities of locally managed funds only. Some insights to be gleaned from alternative approaches are offered later.

3 See, for example, the discussion of UK merchant capital in Sunley et al. (2005).

4 There was also an unprecedented increase in the activity of other European VC funds in 2003, which invested some €293 million in Irish companies, bringing the total invested in Ireland by domestic and other European VC funds to more than €535 million, as shown in Figure 9. We have been unable to discover any data on funds invested in Irish enterprises by non-European VC funds (see Organisation for Economic Co-Operation and Development, 2000). These are likely to be of some importance as Irish software companies in particular are known to seek financing from US VCs.

5 The Census of Industrial Production provides data on the sectoral location of Irish indigenous manufacturing firms, but data specifically for indigenous – as opposed to foreign multinational – firms are not generally available across the EU.

6 For more detailed information on the advantages of the investment limited partnership as a special vehicle for venture capitalists see Lyons (2004).

7 See Sterne (2004: 247–51, 284) on the history of commercial VC firms in Ireland.

8 These statistics do not record funds raised or invested by VC funds managed outside Europe.

9 Not all years are shown separately in the figure.

10 As the data for comparing the country of management, country of origin and country of destination approaches are limited in regard to non-European countries, only flows to and from European countries can be taken into consideration in the analysis.

11 'Overseas founders are often considered attractive to Irish companies due to their established far reaching networks and international presence which bring added value with their investments' (FitzGerald, 2002).

12 See for example FitzGerald (2002) and Berkery (2001).

13 Berkery (2001).

14 Preference shares with a low coupon rate are used to provide a form of long-term finance at low cost to SMEs that are unable to raise development finance from the market on similar terms.

15 The Enterprise Ireland Seed and Venture Capital Investments reported in Table 11 amount to €131.17 million for the period 2000–6. This exceeds the €98 million reported by the 2006 Seed and Venture Capital Programme Report as Enterprise Ireland funds committed for the period. The latter appears to refer to new funds earmarked from the Enterprise Ireland budget while the former includes profits, possibly from previous programmes, ploughed back into the current programme.

16 Companies in software and information and communications technology comprised almost half of these HPSUs, particularly since 1994, while in more recent years there has been a growth in the share represented by the pharmaceuticals and medical devices sectors (O'Brien, 2008).

17 The focus of the development agencies on export development has been criticised in some quarters as being overly mercantilist. It has been pointed out in defence however that non-traded-sector firms are likely to be competing largely with each other, which would put the state in a vulnerable position were it to support some and not others. In the case of software, the strong focus of the relevant agency has always been on software product firms, which tend to be much more export-oriented than software services.

18 Nor are the internal rates of return (IRR) data unambiguous. For the period 1994–2005 the EVCA has reported the average European IRR as 9.4 per cent, while the only available evidence for Ireland suggests an Irish IRR of 15.7 per cent (Donnelly, 2007). It transpires however that this figure is based on the performance of only three particular funds and cannot be taken as representative.

19 The downturn in the dynamism of the indigenous high-tech sector has been ascribed by Ó Riain (2010) to a shift in Ireland from decentralised networks of state supports to what he terms 'market managerialism'.

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Multimarket Contact Posture and Non-Price Competition: A Firm-Level Test of Forbearance Parameters

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THOMAS E. WILL*

ABSTRACT

Multimarket contact (MMC) research is driven by the mutual forbearance hypothesis, which holds that firms confronting one another in multiple markets tacitly collude. Existing work emphasises price-related dependent variables however, begging the question of whether forbearance effects are pervasive across competitive dimensions, or are limited to price competition and coupled with amplified competitive intensity along such non-price dimensions as marketing and customer service. Interestingly, compelling rationales exist for both *pervasive forbearance* and *partial forbearance* hypotheses. This study theoretically explores and empirically tests the competing hypotheses in the United States (US) passenger airline industry. To this end, I introduce and operationalise a firm-level MMC construct designated *Multimarket Contact Posture*. Positive relationships are found between Multimarket Contact Posture and competitive intensity in both marketing and customer service, indicating support for the partial forbearance hypothesis.

Key Words: Strategic management; competitive dynamics; inter-firm rivalry; multimarket contact

INTRODUCTION

Multimarket contact (MMC) research examines how inter-firm relationships outside a focal market affect inter-firm behaviour within the market. Multimarket theory concentrates on the mutual forbearance hypothesis (Edwards, 1955), which holds that MMC engenders sufficient inter-firm familiarity and retaliatory potential to dampen focal market rivalry. Firms confronting one another across multiple markets recognise that a competitive attack can draw a retaliatory response not only in the attacked market, but at other points of

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contact as well (Edwards, 1955). Multimarket contact thereby magnifies the expected retaliatory costs of initiating an attack, providing firms with a strong incentive to withhold first-mover competitive actions (Karnani and Wernerfelt, 1985). As a result, firms recognising their extended interdependence will tend to 'mutually forbear' (Edwards, 1955), or tacitly collude in the pursuit of rivalry reduction. Numerous empirical studies lend support to the mutual forbearance hypothesis, finding evidence of muted rivalry in higher prices (Alexander, 1985; Busse, 2000; Evans and Kessides, 1994; Fu, 2003; Jans and Rosenbaum, 1997; Kang et al., 2010; Singal, 1996), higher margins (Coccorese and Pellecchia, 2009; Feinberg, 1985; Gimeno, 1999; Gimeno and Woo, 1996, 1999; Hughes and Oughton, 1993; Scott, 1982), and lower entry and exit rates (Baum and Korn, 1996; Boeker et al., 1997; Fuentelsaz and Gomez, 2006; Ghemawat and Thomas, 2008). Existing research, therefore, suggests that firms derive certain market-specific benefits from meeting focal market rivals in multiple other markets. From this perspective, a high level of MMC has salutorious effects on firm–market prices, margins and entry rates.

The compelling body of research on firm–market-level forbearance outcomes, however, does not broach the issue of *firm-level* implications of multimarket contact. Neither existing theory nor empirical evidence explicitly supports any relationship between MMC and firm-wide behaviour or outcomes. Absent demonstrated links to the firm level, the strategic ramifications of multimarket contact remain unknown. Is MMC a peripheral consideration at the firm level, drowned out by more powerful concerns and of little consequence to the way a firm behaves and performs? Or do forbearance dynamics rooted in a firm's individual markets percolate upward one level of analysis, shaping organisation-wide actions and outcomes? If multimarket contact does find expression at the firm level, what is the nature of its influence? Are forbearance effects pervasive across competitive dimensions, or does multimarket contact influence non-price competition differently from price competition?

The purpose of this study is to more firmly establish the nature and significance of MMC's strategic impact. To this end, I employ two fresh investigative tactics. First, I introduce and operationalise a firm-level construct capturing the overall extent to which a firm experiences multimarket contact. I term the new construct *Multimarket Contact Posture (MMCP)*. This firm-level MMC construct is theoretically justified as firm-level managerial processes are deeply implicated in the prevailing firm–market-level construal of MMC. Measurement of firm-level MMC is empirically valuable, as well, because it facilitates examination of firm-level strategic behaviour.

Second, I utilise a competing hypotheses framework that highlights and helps resolve opposing perspectives on the manner in which multimarket contact may influence competitive intensity. The traditional emphasis on prices and margins as dependent variables in MMC research underscores the need to explore how far the bounds of mutual forbearance extend. Firms compete along non-price as well as price dimensions, but it remains unclear precisely how forbearance pertains to the former. One might reasonably hypothesise the relationship between multimarket contact and non-price competition to be positive or, conversely, negative. I develop these competing hypotheses for the purposes of theoretical juxtaposition and empirical testing. On the one hand, a body of theory can be mustered in support of a *pervasive forbearance* hypothesis that a negative relationship between multimarket contact and non-price competition mirrors the negative relationship established between MMC and price competition. On the other hand, theoretical support can be enlisted for a *partial forbearance* hypothesis that multimarket contact amplifies non-price competition even while it dampens the intensity of price competition. If MMCP relates positively to such non-price competitive dimensions as advertising, promotions and product/service quality then the mutual forbearance hypothesis must be reconceptualised as permeating but a limited rivalrous space. I test competing pervasive and partial forbearance hypotheses in the US passenger airline industry, where existing MMC research most compellingly demonstrates forbearance in pricing.

MULTIMARKET CONTACT POSTURE: A NEW FIRM-LEVEL CONSTRUCT

The multimarket contact construct has been conceptualised and measured at three distinct levels of analysis (Gimeno and Jeong, 2001). Empirical studies at all three levels generally support Edward's (1955) mutual forbearance hypothesis that multimarket contact dampens inter-firm rivalry. Early work conducted by economists treated MMC as a market attribute. Studies in this tradition measure the construct as the overall degree of multimarket contact among firms serving a focal market. Feinberg (1985), for example, finds evidence of mutual forbearance in the positive relationship between industry-wide measures of MMC and industry-wide price–cost margins. Similarly, Evans and Kessides (1994) and Singal (1996) conclude that the average number of external contacts between airlines in a given route positively affects fare levels in that route, while Jans and Rosenbaum (1997) show that geographic market MMC levels positively influence cement prices. Management scholars, on the other hand, typically regard multimarket contact as a characteristic of the relationship between firms (Gimeno and Jeong, 2001). Within the management literature, MMC has been measured at both the dyadic and the firm–market levels of analysis. The dyadic approach measures the overall level of multimarket contact between two firms across all of the markets in which the two meet. Baum and Korn (1999) employ the dyadic approach, finding that the MMC between two airlines across all of the markets in which they meet has an inverted 'U-shaped' relationship with market entry and exit. Most empirical studies of MMC are conducted at the firm–market level of analysis, meaning they measure the level of cross-market contact that a firm has with incumbents in a focal market. In the airline industry, for example, Gimeno and Woo (1996, 1999) find that a carrier's multimarket contact with focal route rivals tends to increase the prices charged by that carrier on that route; Prince and Simon (2009) find that airline-in-route MMC levels relate negatively with on-time performance; and Baum and Korn (1996) find that high airline-in-route MMC levels result in tacitly collusive market entry and exit patterns. In the healthcare industry, Boeker et al. (1997) find a negative relationship between the extent to which a hospital meets focal market competitors in other markets and that hospital's likelihood of exiting the focal market. Like the market and dyadic level studies, therefore, work at the firm-market level generally supports the mutual forbearance hypothesis.

None of the existing MMC measures reflects the extent to which a firm confronts multimarket competitors across the breadth of its corporate portfolio. In other words, there is no firm-level measure of multimarket contact. Conceptualising and measuring MMC at the firm level has theoretical and empirical value, however, because the prevailing firm-market level construal does not relate MMC to the broad range of competitive activities that it may in fact affect. Firms undertake competitive actions specific to individual markets, and they undertake competitive actions common to the entire firm. For example, a firm may cut prices or run promotions in a single product or geographic market, or it may cut prices or run promotions across all of its product or geographic markets. The firm–market-level approach, which dominates existing MMC studies, is designed to capture relationships between MMC and the former, market-specific competitive activities. To capture possible relationships between multimarket contact and the latter, firm-wide competitive activities, a measure reflecting a firm's overall multimarket contact posture (MMCP) must be developed. I explore the details of MMCP measurement in the methods section; I propose calculating a revenue-weighted average of the firm's MMC in its various markets, then controlling for the aggregate number of markets served by the firm. The need for such a measure exists both theoretically and empirically.

The theoretical case for a firm-level construct and measure titled 'multimarket contact posture' derives from the way in which MMC affects managerial decision making. Firm-level vision and decision making are critical – if implicit – components in multimarket theory, which posits that a firm's behaviour in market *a* is affected by competitive contacts in markets *b*, *c*, *d*, and so forth. The mutual forbearance hypothesis assumes a central decision-making body possessing the access and authority to integrate information from multiple corporate units and to coordinate actions across those units. The choice between forbearing and not forbearing resides at the firm level. The mutual forbearance hypothesis has *firms* recognising that MMC magnifies rivals' retaliatory potential, *firms* understanding the incentive to withhold first-mover competitive actions and *firms* tacitly colluding in pursuit of rivalry reduction (Karnani and Wernerfelt, 1985). Thus, firm-level decision processes mediate the relationship between the traditional firm–market-level MMC construct and firm–market-level outcomes. This is significant, because the salience of multimarket contact to corporate decision-makers is likely to vary according not only to the level of MMC in a given firm market, but also to how broadly MMC permeates a firm's numerous markets. In other words, corporate decision makers likely have a feel for a firm's overall multimarket contact posture, and this posture likely affects the influence that multimarket contact considerations have on strategic decision making. As an independent variable, in sum, MMCP is theoretically more tightly linked than is MMC to the corporate locus of decision making.

The empirical case for developing a firm-level construct and measure titled 'multimarket contact posture' centres on the wealth of dependent variables that such a measure has the potential to tap. As discussed above, firms undertake competitive actions common to the entire firm as well as actions specific to individual markets, yet existing MMC research fails to capture firm-level outcomes. The reason for this gap is that firm-level outcomes cannot be related to the prevailing firm–market-level independent variable. The firm-level measure MMCP will enable empirical testing of relationships with a wide range of competitive activities – such as customer service enhancements and marketing initiatives – as well as profitability metrics reported at the firm level.

PERVASIVE VERSUS PARTIAL FORBEARANCE EFFECTS OF MMCP

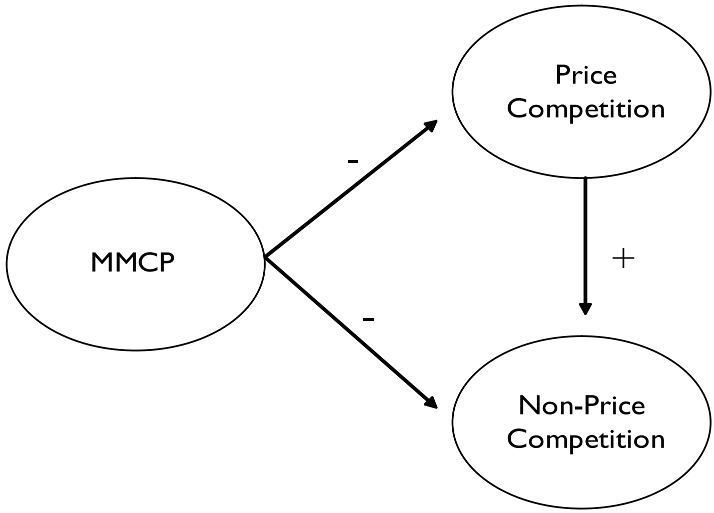
Even at the firm–market and dyadic levels of analysis, where MMC research is concentrated, the breadth and boundaries of forbearance effects remain uncertain. Initially focused during the 1970s and 1980s on *whether* MMC induces tacit collusion, research has only in the past decade begun to shift toward examination of *how* firms engaged in multimarket contact collude. Prices and margins – readily accessible standbys of collusion studies in oligopoly contexts – represent the most studied outcomes in the MMC literature. Forbearance effects along non-price competitive dimensions have begun to receive attention in recent years. Scholars have found evidence that MMC dampens rivalry in focal market entry and exit (Baum and Korn, 1999; Boeker et al., 1997; Fuentelsaz and Gomez, 2006; Ghemawat and Thomas, 2008; Korn and Baum, 1999), advertising (Shankar, 1999), innovation (Greve and Mitsuhashi, 2004), sales growth (Greve, 2008) and customer service (Prince and Simon, 2009). Still, the nature of relationships between MMC and various types of non-price competition is far from settled. In this section, I approach the issue at the firm level. I introduce competing rationales and testable hypotheses addressing relationships between MMCP and non-price competition. One perspective anticipates widespread forbearance effects in service quality and marketing similar to those associated with price competition, while the counterview anticipates MMCP amplifying rather than dampening non-price competition. Implications for firm financial performance are hypothesised.

Parallel Price and Non-Price Effects of MMCP: Pervasive Forbearance

A body of theory anticipates MMCP engendering *pervasive forbearance*, defined here as a negative relationship between MMCP and competitive intensity along both non-price and price dimensions. The negative relationship between multimarket contact and price competition is theoretically and empirically established in the existing literature; therefore, the ensuing discussion of pervasive forbearance focuses on rationales for a negative relationship between MMCP and non-price competition. Dampened rivalry in advertising or product/service quality may derive from either or both of two distinct sets of processes. Multimarket contact may dampen non-price competitive intensity directly via tacit collusion, or indirectly by dampening price competition which in turn decreases problemistic search and competitive solutions. Figure 1 represents both direct and mediated paths from MMCP to non-price competition.

The direct path from MMCP to lower levels of non-price competition via tacit collusion is theoretically identical to that linking multimarket contact to lower levels of price competition. Firms confronting rivals across many markets risk inducing retaliation along several fronts should they pursue promotional campaigns or quality improvement initiatives. A promotional campaign in one market, for instance, may be met by rivals with

Figure 1: Negative Relationship between MMCP and Non-Price Competition



counter-campaigns in numerous markets. The threat of retaliation decreases the expected value of such initiatives, therefore dampening the motivation to pursue them. Inter-firm familiarity resulting from cross-market contact promotes the mutual recognition of interdependence upon which collusion depends. This view, then, interprets the mutual forbearance hypothesis as broadly applicable to non-price as well as to price competition. Empirical research in oligopoly contexts suggests that the boundaries of muted rivalry can indeed be broad. High concentration – a well-established antecedent to collusion in pricing – has been linked as well to decreased service quality in the airline industry (Mazzeo, 2003), decreased product offerings in the banking industry (Heggestad and Mingo, 1976) and decreased product quality when the fixed costs of quality improvement display economies of scale (Banker et al., 1998). The effects of multimarket contact posture may be similarly broad.

An alternate, distinct set of processes may link MMCP indirectly to dampened non-price rivalry. According to this view, price competition mediates outcomes in non-price competition. Tacit collusion in pricing shields the firm from market forces, artificially propping up margins. Beneath the price forbearance shield, firms experience less pressing incentives to allocate resources to advertising, promotions or product/service quality. This is because firm search tends to be problem oriented or failure induced (Nelson and Winter, 1982: 173; Tushman and Romanelli, 1985), meaning that it is stimulated by a problem and directed toward finding a solution to the problem (Cyert and March, 1963: 169; March and Simon, 1958: 194). Forbearance pricing and margins reduce firm perception of performance problems, thus curtailing search for solutions in advertising or quality initiatives (Will, 2011). Muted rivalry along non-price dimensions, according to this view, does not result directly from collusion, but rather indirectly from contextual munificence associated with forbearance in pricing.

Direct and indirect forbearance effects along non-price dimensions are not mutually exclusive; either or both may operate in a given context. Singly or in conjunction with one another, rivalry-muting processes induced by MMCP may reduce the extent to which a firm allocates resources to promotions and sales, product quality or customer service functions. Muted rivalry resulting from MMCP may reduce, as well, the quality of products and services a firm delivers to its customers. Accordingly:

H_{1a}: Multimarket Contact Posture will be negatively related to firm allocation of resources to promotion and sales.

H_{2a}: Multimarket Contact Posture will be negatively related to firm allocation of resources to customer service.

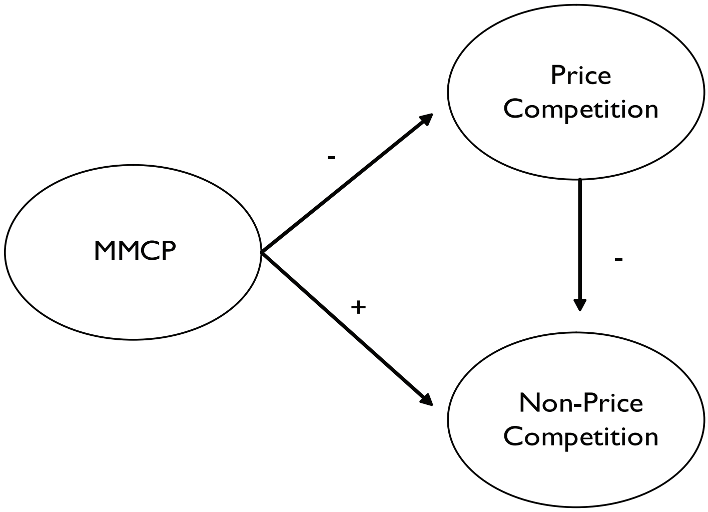
H_{3a}: Multimarket Contact Posture will be negatively related to customer service quality.

Divergent Price and Non-Price Effects of MMCP: Partial Forbearance

In contrast to the theoretical arguments supporting a pervasive negative relationship between MMCP and both price and non-price competitive intensity, an alternate body of logic anticipates MMCP engendering *partial forbearance*, defined here as a negative relationship between MMCP and price competition accompanied by a positive relationship between MMCP and non-price competition. Oligopoly studies find inverse relationships between price competition and competition in arenas such as advertising, and research and development (R&D) (Symeonidis, 2000a, 2000b), suggesting that similar relationships may hold in multimarket contact scenarios. Three lines of reasoning can be invoked to explain why MMCP may increase non-price competition even while decreasing price competition. First, the relatively low observability of non-price competition may undermine tacit collusion; second, organisational slack accumulated as a result of forbearance in price competition may fuel non-price competitive activity; and third, multimarket competitors may pursue non-price competition out of recognition that it uniquely aligns group and individual interests.

The first line of reasoning supporting the partial forbearance hypothesis focuses on the critical role played by observability in establishing and maintaining tacit collusion. In order for rivals to tacitly collude, they must be able to recognise and apprehend one another's competitive intent. Some competitive intentions, however, are more observable – and thus more readily recognised and apprehended – than are others. On the one hand, firm pricing decisions have immediate, public, standardised outcomes. On the other hand, firm resource allocation decisions in the realms of marketing and, especially, product/service quality generate less immediate, public and standard outcomes. Marketing and quality outcomes are therefore more difficult to observe and interpret, rendering firm intentions more difficult for rivals to divine. Thus, price coordination and collusion may be easier to establish and maintain than non-price (Symeonidis, 2000b). This line of thought informs Greve's (2008) reference to the importance of observability to the success of mutual forbearance in multimarket contexts. In the absence of observability, inter-firm contact in multiple markets fuels rather than mutes intensity of rivalry. These considerations support a direct, positive relationship between MMCP and non-price competition, as represented in Figure 2.

Figure 2: Positive Relationship between MMCP and Non-Price Competition



The second line of reasoning supporting the partial forbearance hypothesis holds that organisational slack accumulated as a result of forbearance in price competition may fuel non-price competitive activity. Price forbearance confers excess resources upon the firm. Therefore, firms high in multimarket contact posture are able to allocate more resources to marketing and product/service quality by virtue of the fact that they have more resources available for allocation. According to this logic, price forbearance mediates the relationship between MMCP and non-price outcomes.

The third line of reasoning supporting the partial forbearance hypothesis maintains that multimarket competitors may pursue non-price competition out of recognition that it uniquely aligns group and individual interests. Increased non-price competition in high MMCP contexts may represent a rational group effort to grow overall market size. This outcome is uniquely possible along non-price dimensions because price and non-price competition have fundamentally different implications for the alignment of individual and group interests. Tacit collusion emerges when 'prisoners' dilemmas' are mitigated by a combination of inter-firm communication and the mutual capacity to punish defection. Price competition represents a prisoners' dilemma. While a unilateral price cut may serve a firm's short-term interests by increasing market share, revenues and profits, the move undermines rivals' interests. The dilemma is that while each firm thereby has an incentive to cut prices, all will be worse off if all cut prices. Familiarity and deterrence associated with multimarket contact circumvent the dilemma by aligning group and individual interests, assuring each firm that a unilateral price cut will be punished. What hurts the group hurts the first-mover even more. Individual and group interests are less clearly opposed in non-price competition, however. Unilateral improvements in actual or perceived quality may steal some market share from rivals, but it may also grow market size without undermining rivals' margins. More importantly, if all rivals pursue advertising campaigns and/or product/service quality initiatives, all stand to gain by increasing overall market size and by differentiating in ways that justify sustained high prices and margins. Non-price competition, therefore, does not necessarily represent a prisoners' dilemma. A positive relationship between MMCP and non-price competition may derive not so much from difficulties in communicating, interpreting and enforcing collusion, or from excess resources, as from rivals' mutual recognition that they stand to gain more than they lose by rigorous multilateral attention to advertising and quality.

The three strains of thought supporting a positive relationship between MMCP and non-price competition may operate singly or in tandem. The arguments considered suggest that MMCP heightens the allocation of resources to marketing and product/service quality – whether directly, mediated through price forbearance or both – and enhances the quality of products and services actually delivered. Accordingly:

H_{1b}: Multimarket Contact Posture will be positively related to firm allocation of resources to promotion and sales.

H_{2b}: Multimarket Contact Posture will be positively related to firm allocation of resources to customer service.

H_{3b}: Multimarket Contact Posture will be positively related to customer service quality.

METHODS

Sample

The US passenger airline industry was a particularly attractive setting for my empirical analysis of firm-level MMCP, given the prominence of airline studies in the MMC literature. The mutual forbearance hypothesis has met with repeated support at the firm–market level in airline studies. Researchers have found that multimarket contact generates higher prices (Evans and Kessides, 1994), increased revenue per passenger seat mile (Gimeno, 1999; Gimeno and Woo, 1996), wider price–cost margins (Gimeno and Woo, 1999; Singal, 1996) and lower entry and exit rates (Baum and Korn, 1996, 1999). The numerous indications of carriers' firm–market-level forbearance make the airline industry an ideal context for examining whether tacit collusion translates to the firm level as well. Additionally, the demonstrated presence of price forbearance in the industry is appropriate for my purpose of determining whether non-price effects accompany price effects of multimarket contact. The questions motivating this article build on and extend existing MMC work, so the heavily studied airline industry represents an ideal context for my analysis.

I collected flight, financial and customer service data for each of the seventeen US passenger airlines that accounted for at least 1 per cent market share in 2003. For these target airlines, I analysed nonstop and one-stop flights conducted in July 2003 to and from the 68 airports in the continental United States categorised by the Department of Transportation (DOT) as either large or medium-sized. It was necessary to calculate firm-market level MMC in order to obtain values for the firm-level dependent variable MMCP, because the former is an input in the equation yielding the latter. Calculation of MMC entails defining market parameters. Consistent with previous multimarket contact studies in the airline industry (Gimeno and Woo, 1996, 1999), I defined a market as a city pair. Airports were considered in the same city if the distance separating them was 30 miles or less. The following airports were treated as occupying the same city: Midway and O'Hare (Chicago); Hobby and Intercontinental (Houston); Love Field and Dallas/Fort Worth International (Dallas); Dulles and Reagan (Washington DC); San Francisco International and Metro Oakland International (San Francisco); Burbank and Los Angeles International (Los Angeles); Fort Lauderdale and Miami International (Miami); and La Guardia, JFK and Newark (New York). The 68 airports in 59 cities generate 1,740 potential distinct city-pair markets, and the 17 target airlines actually flew nonstop and/or one-stop flights in 1,704 city-pair markets.

Data were obtained from US Department of Transportation databases. Nonstop flights were determined from the database 'On-Time Performance', while one-stop flights were determined from the database 'DB1B Market'. For the purposes of coding a carrier's presence in or absence from a particular market, I utilised two data sets: one consisting of 398,833 flights, or all nonstops flown in July 2003; and a second consisting of 1,428,861 flights, which was a 10 per cent random sampling of all one-stops flown in the third quarter of 2003. Balance sheet and income statement data were collected from the 'Schedule B-1' and 'Schedule P-12' components of the 'Form 41 Financial Schedule'. Service quality data were obtained from the 'Air Travel Consumer Report'.

Measures

Dependent Variables

I used two variables to measure firm allocation of resources to promotion and sales. 'Promotion and Sales Expenses' describes a carrier's allocation of resources to promotion and sales relative to its allocation of resources to other functions. The variable was calculated by dividing each carrier's 2003 promotion and sales expenses by its total operating expenses. The Bureau of Transportation Statistics (BTS) reports as promotion and sales expenses those costs 'incurred in promoting the use of air transportation generally and creating a public preference for the services of particular air carriers' (Bureau of Transportation Statistics, n.d.). The BTS includes in this category the functions of selling, advertising, publicity and developing flight schedules for publication. 'Promotion and Sales Share' describes a carrier's resource commitment to promotion and sales relative to rivals' resource commitments to the same functions. The variable's numerator was calculated by dividing the focal carrier's promotion and sales expenses by the total promotion and sales expenses of all seventeen firms. The variable's denominator, intended to adjust the variable to market share differentials between firms, was calculated by dividing the focal carrier's operating revenues by the total operating revenues of all seventeen firms. 'Promotion and Sales Share', therefore, is a measure of a firm's promotion and sales expenses market share relative to its revenue market share.

I used two variables to measure firm allocation of resources to customer service. 'Passenger Service Expenses' describes a carrier's allocation of resources to passenger service relative to its allocation of resources to other functions. The variable was calculated by dividing each carrier's 2003 passenger service expenses by its total operating expenses. The BTS defines passenger service expenses as the costs of 'activities contributing to the comfort, safety, and convenience of passengers while in flight or when flights are interrupted' (Bureau of Transportation Statistics, n.d.). The category includes flight attendant salaries and passenger food expenses. 'Passenger Service Share' describes a carrier's resource commitment to passenger service relative to rivals' resource commitments to the same function. The variable's numerator was calculated by dividing the focal carrier's passenger service expenses by the total passenger service expenses of all seventeen firms. The variable's denominator, intended to adjust the variable to market share differentials between firms, was calculated by dividing the focal carrier's operating revenues by the total operating revenues of all seventeen firms. Thus, 'Passenger Service Share' is a measure of a firm's passenger service expenses market share relative to its revenue market share.

I used three variables to measure customer service quality. The variables 'Mishandled Baggage' and 'Consumer Complaints' reflect rates of reports and complaints filed by passengers with the US Department of Transportation in 2003. Airline passengers may file DOT reports and complaints against carriers by telephone, by e-mail and in person. 'Mishandled Baggage' indicates the number of reports lodged against a carrier, per 1,000 passengers, concerning lost, damaged, delayed or pilfered baggage. I used the natural logarithm of this variable to correct for adverse skew. 'Consumer Complaints' is a measure of the number of complaints lodged against an airline, per 100,000 passengers. The DOT recognises a wide range of complaint categories encompassing customer service broadly: complaints about rude or unhelpful employees; inadequate meals or cabin service; treatment of delayed passengers; cancellations; delays; over-sales; airline mistakes in reservations and ticketing; problems making reservations or obtaining tickets due to busy phones, waiting in line or delays in mailing tickets; overcharges; incorrect or incomplete information about fares or fare conditions and availability; problems in obtaining refunds for unused or lost tickets or for fare adjustments; claims for lost, damaged or delayed baggage; charges for excess baggage; and carry-on problems. Therefore, 'Consumer Complaints' is a multidimensional reflection of the general service quality a carrier delivers to its passengers. Submitting a complaint to the DOT is a rather unusual step for a dissatisfied customer to take. Most passengers likely take their complaints to the airline before they take them to the US Department of Transportation. Complaints filed with the DOT, therefore, indicate a strong customer mindset and a twofold failure in customer service on the carrier's behalf. Not only did some initial occurrence engender passenger dissatisfaction, but the carrier's failure to assuage the dissatisfaction motivated the customer to invest the time and effort into seeking out the DOT. The 'Consumer Complaints' variable, therefore, is highly appropriate to my purpose of capturing the quality of service an airline delivers to its customers. Additionally, the measure possesses the virtue of objectivity, in that it is recorded and reported in a standardised manner by a third party.

The third variable used to measure customer service quality, 'Late and Cancelled Flights', indicates the 2003 percentage of a carrier's flights that did not arrive or that arrived fifteen or more minutes later than the scheduled time shown in the carrier's computerised reservation system. Cancelled and diverted operations, as well as flights arriving late for any reason, were counted in the 'Late and Cancelled Flights' variable. Customers value dependability, and carriers have some discretion over their on-time performance. Airline decisions concerning pre-emptive maintenance, the number of reserve planes kept on-site, plane turn-around processes and scheduled turn-around times all factor into on-time performance. Thus, 'Late and Cancelled Flights' is an appropriate measure of the service quality a carrier delivers to its customers.

Independent Variable

The independent variable 'Multimarket Contact Posture (MMCP)' was obtained by a three-step process. First, firm–market-level multimarket contact (MMC) values were determined for each market served by a focal firm. Following prior research, I used a count measure of multimarket contact (Baum and Korn, 1996; Evans and Kessides, 1994; Gimeno and Woo, 1996, 1999). For each airline in each city-pair market, I counted the number of markets in which the carrier in question met a specific focal market rival outside the focal market. I computed MMC by summing all multimarket contacts that the focal firm had with focal market rivals, then dividing by the number of rivals. In this way, a multimarket contact value was obtained for each firm in each market. For example, if firm *a* encountered two rivals in market *m*, and one rival shared 200 multimarket contacts with firm *a* while the other rival shared 400 multimarket contacts with firm *a*, then the MMC value for firm *a* in market *m* was 300 ([200 + 400] / 2).

The first step yielded an MMC value for each market served by each firm. Because my objective was to examine the extent to which multimarket contact posture affects firm-level behaviour and outcomes, it was necessary to create an independent variable that captured not only the level of MMC in each market served by the firm but also the relative impact that the firm's participation in a market was likely to have on firm-level strategic orientation. Some markets are more salient to organisational decision makers and more important to firm-level outcomes than are others. Competitive position in the Albuquerque–Omaha market is likely to be of less consequence to most firms than is competitive position in the Chicago–New York market. Therefore, the second step in calculating MMCP involved weighting each market according to the proportion of total firm operating revenues for which it accounted. I divided firm operating revenues derived from the focal market by total firm operating revenues, then multiplied this proportion by the firm's MMC value in the focal market. This calculation yielded a revenue-weighted MMC value for each firm in each market. I summed these revenue-weighted MMC values from all markets served by a given firm, obtaining a raw revenue-weighted MMCP value for each firm.

The third and final step in obtaining MMCP involved indexing the raw MMCP values according to the number of markets served by the focal firm. Carriers participating in a great many markets are more likely to meet rivals in multiple markets than are carriers that serve fewer markets. Raw MMCP, therefore, strongly reflects the breadth of a firm's presence in its industry. My interest, however, was in the firm's relative exposure to multimarket relationships, *given the breadth of its presence in its industry*. To capture this relative exposure to multimarket relationships, I divided each firm's raw MMCP value by the number of city-pair markets in the sample served by the firm. Finally, I multiplied resulting values by 1,000 for rescaling. The entire equation used to calculate MMCP is represented in Figure 3, and the values for markets served, raw revenue-weighted MMCP, and MMCP are listed in Table 1.

Figure 3: MMCP Equation

$$\text{MMCP} = \frac{(\text{MMC}_{am})\dfrac{(\text{Revs}_{am})}{(\text{Revs}_{mTot})} + (\text{MMC}_{an})\dfrac{(\text{Revs}_{an})}{(\text{Revs}_{nTot})}}{\text{markets served}_a} \times 1000$$

Where:
MMC = firm–market-level multimarket contact
a = firm a
$m, n, \ldots$ = market m, market n, . . .

Table 1: Carriers Ranked by MMCP

Carrier	MMCP	Raw Revenue-Weighted MMCP	Markets Served (Nonstops and One-Stops)
American Eagle Airlines	449	53	118
United Airlines	490	570	1,165
American Airlines	502	641	1,277
Delta Airlines	511	699	1,369
Southwest Airlines	517	417	807
Skywest Airlines	540	104	192
Independence Air	546	63	116
Continental Airlines	548	579	1,057
Expressjet Airlines	573	227	395

(*Continued*)

Table 1: (*Continued*)

Carrier	MMCP	Raw Revenue-Weighted MMCP	Markets Served (Nonstops and One-Stops)
America West Airlines	575	335	583
Northwest Airlines	579	680	1,174
US Airways	604	352	583
Atlantic Southeast Airlines	634	96	151
ATA Airlines	688	118	171
Alaska Airlines	695	75	108
JetBlue Airways	714	42	59
Airtran Airways	752	168	223

Control Variables

The denominator of the equation for MMCP embeds within the independent variable a control for one dimension of organisational size. The number of markets served by a firm reflects the breadth of the firm's resource deployments, but it does not fully capture the size of the firm's resource endowments. Resource allocation to promotion, sales and passenger service functions, as well as the ability to deliver quality service, are likely influenced by economies of scope and economies or diseconomies of scale. To account for effects attributable to the size of firm resource endowments, I included the control variable 'Total Assets' at the fiscal year ending 2003. I used the natural logarithm of this variable to correct for skew. Dependent variables relating to service quality and resource allocations are likely as well to be sensitive to differences in profitability. More profitable firms may be better equipped than less profitable firms to devote resources to promotion, sales and passenger service functions, and to deliver quality service. For this reason, I included the control variable 'ROE 2002–2004' in the regression analyses. I used return on equity (ROE) averaged across the three years 2002, 2003 and 2004 to limit the effects of short-term variance in profitability.

RESULTS

Table 2 provides descriptive statistics and Spearman correlations for the study variables. I tested for multicollinearity by calculating the variance inflation factors (VIFs) in each regression equation. Multimarket contact posture had VIFs of 1.361 in regression equations for all resource allocation and service quality variables, which is well below the level of 10 that is regarded as problematic (Ryan, 1997).

I used ordinary least squares (OLS) regression analysis to test my hypotheses. H_{1a} predicts that MMCP will be negatively related to firm allocation of resources to promotion and sales functions. H_{1b}, on the other hand, anticipates a positive relationship between MMCP and the allocation of resources to promotion and sales. Results appear in Table 3.

Table 2: Descriptive Statistics and Correlations for MMCP Analysis[a]

Variables	Mean	s.d.	1	2	3	4	5	6	7	8	9	10
1. MMCP	583.420	86.594										
2. Raw revenue-weighted MMCP	307.048	244.793	-0.35									
3. Promotion and sales expenses	0.067	0.040	0.27	0.29								
4. Promotion and sales share	0.752	0.456	0.09	0.46†	0.92***							
5. Passenger service expenses	0.078	0.028	-0.11	0.52*	0.57*	0.65**						
6. Passenger service share	0.753	0.316	-0.14	0.63**	0.54**	0.70**	0.94***					
7. Mishandled baggage[b]	1.502	0.500	-0.46†	-0.20	-0.77***	-0.66**	-0.36	-0.32				
8. Consumer complaints	0.645	0.269	0.03	0.59*	0.22	0.36	0.42†	0.50*	-0.27			
9. Late and cancelled flights	0.189	0.034	0.24	-0.37	-0.42†	-0.41	-0.64**	-0.54*	0.31	0.09		
10. ROE 2002–2004	-0.045	0.097	0.15	-0.39	-0.05	-0.17	-0.28	-0.42†	-0.22	-0.51*	-0.20	
11. Total assets[b]	8.233	1.328	-0.49*	0.67**	0.43†	0.58*	0.72**	0.79***	-0.20	0.44†	-0.47†	-0.34

[a] Spearman Correlations (2-tailed)
[b] Natural logarithmic transformation used to correct for adverse skew
† $p < 0.10$ * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Table 3: Results of OLS Regression Analysis for Allocation of Resources to Promotion and Sales and to Passenger Service[a]

Variables	**Promotion and Sales Expenses**		**Promotion and Sales Share**		**Passenger Service Expenses**		**Passenger Service Share**	
	Step 1	*Step 2*	*Step 1*	*Step 2*	*Step 1*	*Step 2*	*Step 1*	*Step 2*
Intercept	-0.055 (0.061) p = 0.381	-0.358** (0.087) p = 0.001	-0.858 (0.656) p = 0.212	-4.018** (0.958) p = 0.001	-0.041 (0.036) p = 0.267	-0.173* (0.063) p = 0.016	-0.677† (0.336) p = 0.063	-1.878** (0.600) p = 0.008
Total assets[b]	0.015† (0.008) *0.501* p = 0.065	0.027** (0.006) *0.898* p = 0.001	0.196* (0.081) *0.569* p = 0.029	0.320*** (0.066) *0.931* p = 0.000	0.014** (0.004) *0.671* p = 0.005	0.020** (0.004) *0.914* p = 0.001	0.171** (0.041) *0.716* p = 0.001	0.218*** (0.042) *0.914* p = 0.000
ROE 2002–2004 average	0.036 (0.103) *0.087* p = 0.732	0.042 (0.071) *0.101* p = 0.570	0.019 (1.102) *0.004* p = 0.987	0.079 (0.789) *0.017* p = 0.922	-0.021 (0.060) *-0.070* p = 0.736	-0.018 (0.052) *-0.062* p = 0.732	-0.573 (0.564) *-0.176* p = 0.327	-0.550 (0.494) *-0.169* p = 0.286
MMCP		0.000*** (0.000) *0.762* p = 0.001		0.004** (0.001) *0.695* p = 0.002		0.000* (0.000) *0.466* p = 0.030		0.001* (0.001) *0.381* p = 0.039
R^2	0.228	0.655	0.322	0.678	0.488	0.647	0.631	0.737
Adj. R^2	0.118	0.575	0.225	0.603	0.415	0.566	0.578	0.677
ΔR^2	0.228	0.426	0.322	0.355	0.488	0.160	0.631	0.107
Model F	2.071 p = 0.163	8.219** p = 0.003	3.329† p = 0.066	9.106** p = 0.002	6.665** p = 0.009	7.959** p = 0.003	11.954** p = 0.001	12.163*** p = 0.000
ΔF	2.071 p = 0.163	16.060** p = 0.001	3.329† p = 0.066	14.324** p = 0.002	6.665** p = 0.009	5.891* p = 0.030	11.954** p = 0.001	5.277* p = 0.039

[a] N = 17; unstandardised regression coefficients, standard errors (parentheses), and standardised coefficients (italics), in that order

[b] Natural logarithmic transformation used to correct for adverse skew

† $p < 0.10$ * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

After controlling for total assets and return on equity, I found that MMCP contributed significantly to prediction of the two dependent variables tested. Multimarket contact posture predicted statistically significant variance in promotion and sales expenses (ΔR^2 = 0.43, ΔF = 16.06, p < 0.01) and promotion and sales share (ΔR^2 = 0.36, ΔF = 14.32, p < 0.01). Overall model F was non-significant for promotion and sales expenses before the introduction of MMCP, but with the inclusion of that single variable the model explained a sizable proportion of variance at a high level of statistical significance (adjusted R^2 = 0.58, F = 8.22, p < 0.01). For promotion and sales share, as well, overall model significance and explained variance increased appreciably with the introduction of MMCP (adjusted R^2 = 0.23, F = 3.33, p < 0.10 without MMCP; adjusted R^2 = 0.60, F = 9.12, p < 0.01 with MMCP). Signs were positive for both regression analyses, supporting H_{1b}.

According to H_{2a}, MMCP will be negatively related to firm resource allocation to customer service, while H_{2b} predicts a positive relationship between MMCP and the allocation of resources to customer service. The results, shown in Table 3, indicated that MMCP contributed significantly to prediction of the two variables tested, controlling for total assets and profitability. Multimarket contact posture predicted statistically significant variance in passenger service expenses (ΔR^2 = 0.16, ΔF = 5.89, p < 0.05) and passenger service share (ΔR^2 = 0.11, ΔF = 5.28, p < 0.05). Explained variance in passenger service expenses was sizable and significant for the model without MMCP (adjusted R^2 = 0.42, F = 6.67, p < 0.01), but grew appreciably with the addition of MMCP (adjusted R^2 = 0.57, F = 7.96, p < 0.01). Similarly, the model was effective in predicting passenger service share without MMCP (adjusted R^2 = 0.58, F = 11.95, p < 0.01), but was even more effective with MMCP (adjusted R^2 = 0.68, F = 12.16, p < 0.001). Signs were positive for analyses on both dependent variables, lending support to H_{2b}.

H_{3a} predicts that MMCP will be negatively related to customer service quality, while H_{3b} predicts that MMCP will be positively related to customer service quality. Results for the three measures of customer service quality appear in Table 4.

Table 4: Results of OLS Regression Analysis for Customer Service Quality[a]

Variables	**Mishandled Baggage[b]**		**Consumer Complaints**		**Late and Cancelled Flights**	
	Step 1	*Step 2*	*Step 1*	*Step 2*	*Step 1*	*Step 2*
Intercept	2.552** (0.816) *p* = 0.007	5.646** (1.419) *p* = 0.002	0.212 (0.370) *p* = 0.576	-0.348 (0.762) *p* = 0.655	0.302*** (0.047) *p* = 0.000	0.308** (0.099) *p* = 0.008
Total assets[b]	-0.134 (0.100) *-0.357* *p* = 0.202	-0.256* (0.098) *-0.681* *p* = 0.022	0.045 (0.045) *0.222* *p* = 0.339	0.067 (0.053) *0.331* *p* = 0.663	-0.015* (0.006) *-0.576* *p* = 0.023	-0.015* (0.007) *-0.585* *p* = 0.049

(*Continued*)

Table 4: (*Continued*)

Variables	Mishandled Baggage[b]		Consumer Complaints		Late and Cancelled Flights	
	Step 1	*Step 2*	*Step 1*	*Step 2*	*Step 1*	*Step 2*
ROE 2002–2004 average	-1.243 (1.371) *-0.242* p = 0.380	-1.302 (1.169) *-0.253* p = 0.286	-1.392[*] (0.621) *-0.503* p = 0.042	-1.382[*] (0.628) *-0.499* p = 0.046	-0.172[*] (0.079) *-0.492* p = 0.046	0.172[†] (0.082) *-0.493* p = 0.055
MMCP		-0.004[*] (0.001) *-0.622* p = 0.027		0.001 (0.001) *0.209* p = 0.414		0.000 (0.000) *-0.017* p = 0.949
R^2	0.126	0.410	0.381	0.413	0.377	0.377
Adjusted R^2	0.001	0.273	0.292	0.277	0.287	0.233
ΔR^2	0.126	0.284	0.381	0.032	0.377	0.000
Model F	1.006 p = 0.391	3.007[†] p = 0.069	4.300[*] p = 0.035	3.044[†] p = 0.067	4.227[*] p = 0.037	2.619[†] p = 0.095
ΔF	1.006 p = 0.391	6.253[*] p = 0.027	4.300[*] p = 0.035	0.711 p = 0.414	4.227[*] p = 0.037	0.004 p = 0.949

[a] N = 17; unstandardised regression coefficients, standard errors (in parentheses), and standardised coefficients (in italics) are presented, in that order
[b] Natural logarithmic transformation used to correct for adverse skew
[†] $p < 0.10$ [*] $p < 0.05$ [**] $p < 0.01$ [***] $p < 0.001$

Controlling for total assets and return on equity in all regression analyses, I found that MMCP contributed significantly to the prediction of mishandled baggage ($\Delta R^2 = 0.28$, $\Delta F = 6.25$, $p < 0.05$). The sign was negative, lending support to H_{3b}, for lower rates of mishandled baggage reflect better customer service. Overall model F was non-significant for mishandled baggage before the introduction of MMCP, but with MMCP the model explained a statistically significant proportion of variance (adjusted $R^2 = 0.27$, $F = 3.01$, $p < 0.10$). However, MMCP did not contribute significantly to the prediction of consumer complaints or late and cancelled flights, nor did models with or without MMCP account for variance in these two dependent variables. In all, H_{3b} received partial support.

DISCUSSION

This study considered firm-level implications of multimarket contact. I introduced MMCP – a construct and associated measure reflecting firm-level multimarket contact – and proposed competing hypotheses on the scope of mutual forbearance effects. One set of hypotheses represented the pervasive forbearance argument that MMCP dampens non-price competitive intensity. An opposing set of hypotheses represented the partial forbearance argument that MMCP amplifies non-price competition. I tested my hypotheses in the airline industry, where numerous existing studies report evidence of mutual forbearance in pricing. On balance, results backed the partial forbearance perspective. In support of partial forbearance hypotheses H_{1b} and H_{2b}, findings indicate a positive relationship between MMCP and the allocation of resources to promotion and sales and to customer service. Partial forbearance hypothesis H_{3b} received mixed support. A positive relationship was found between MMCP and baggage-handling service quality, but no relationship appeared between MMCP and either rate of consumer complaints or on-time performance.

It is not surprising that findings were stronger for resource allocation variables than for customer service variables. Resource allocation reflects the depth of a firm's commitment to particular objectives. I interpret relative resource allocation to promotion, sales and passenger service as indicative of a firm's intent to compete or not compete vigorously along those dimensions. Commitment and intent, however, do not necessarily translate to success. The quality of service a carrier actually delivers is governed not only by the carrier's intent, but also by the carrier's effectiveness in actualising its intent. While the hypothesised relationship between MMCP and intent to deliver quality service is direct, the relationship between MMCP and quality of service delivered is indirect. The latter relationship is mediated by intent and moderated by managerial effectiveness. Thus, one might expect stronger relationships between MMCP and resource allocation than between MMCP and passenger service delivered. This may explain why strong results were obtained for the former while the latter met with mixed results.

Measurement issues represent an alternate explanation for mixed customer service results. The lack of significant findings for 'Consumer Complaints' and 'Late and Cancelled Flights' may derive from problems pertaining to those dependent variables specifically. Reliability of the variable 'Consumer Complaints' may be compromised by extremely low report rates for all airlines. The mean report rate for all carriers for 2003 was 0.645 per 100,000 passengers, or just 1 complaint reported per 155,111 passengers. No airline had a consumer report rate greater than 0.95 per 100,000 passengers. Therefore, the variable was exceedingly sensitive to small variations, and may not constitute a reliable indicator of consumer dissatisfaction with service quality. The variable 'Late and Cancelled Flights' may measure a service dimension over which carriers exercise too little discretion for the purposes of this study. While airlines can take certain actions to mitigate delays and cancellations, such as keeping extra planes on hand in case of maintenance problems or building slack into schedules, multiple other factors may drown out those that carriers can influence. Flights are delayed or cancelled for many reasons beyond carriers' control, including weather, airport security issues and random passenger behaviour. Minimal carrier discretion over variance in outcomes measured by 'Late and Cancelled Flights', therefore, may account for the non-significant relationship between that variable and MMCP.

The support for partial forbearance with regard to the dependent variables 'Passenger Service Expenses', 'Passenger Service Share' and 'Mishandled Baggage' runs counter to the findings of the sole other study to date exploring MMC effects on service quality. Prince and Simon (2009) examine the US airline industry during the years 1995 through 2001, finding evidence of a negative relationship between multimarket contact and service quality. The difference in the direction of the results in this study as compared to the Prince and Simon (2009) study may be attributable to the use of different independent and dependent variables. Prince and Simon's variables differ from those employed by this study in terms of both level of analysis and dependent variable observability. With regard to level of analysis, Prince and Simon (2009) employ firm–market-level MMC as an independent variable, while this study's use of the firm-level measure MMCP enables examination of firm-level dependent variables. With regard to dependent variable observability, Prince and Simon (2009) operationalise service quality with the measures on-time performance, cancellations, plane size and frequency of flights. While these measures are important indicators of service quality, they are all characterised by high levels of observability. Given the important role that observability plays in making tacit collusion possible (Greve, 2008), it is likely that the MMC–service quality relationship is highly sensitive to this particular dependent variable attribute. The less perfectly observable the type of service quality activity or outcome in question, the less likely multimarket competitors are able to establish and monitor mutual forbearance. Thus, the differences between this study's results and the Prince and Simon (2009) results may be explained in part by differences in the observability of the dependent variables employed. While the Prince and Simon dependent variables on-time performance, cancellations, plane size and frequency of flights are tracked, publicised and readily available at the flight level, the variables 'Passenger Service Expenses' and 'Passenger Service Share' used in this study consist of more opaque 'activities contributing to the comfort, safety, and convenience of passengers while in flight or when flights are interrupted' (Bureau of Transportation Statistics, n.d.), such as flight attendant salaries and passenger food expenses. It should be noted that the dependent variable 'Mishandled Baggage' is more in line with the Prince and Simon variables in terms of observability, suggesting that imperfect observability does not play a role in the support the 'Mishandled Baggage' results lend to the partial forbearance hypothesis.

In all, the robust effect sizes found for 'Promotion and Sales Expenses', 'Promotion and Sales Share', 'Passenger Service Expenses', 'Passenger Service Share' and 'Mishandled Baggage' inform two major deductions with important implications for multimarket contact theory and research. First, this study establishes that multimarket contact contributes to the explanation of certain firm-level behaviours and outcomes. The MMCP construct I propose and measure bridges the gap between levels of analysis, for it is compiled of firm–market-level data and it accounts for sizable variance in firm-level outcomes. Results represent the first empirical confirmation of cross-level relationships deriving from multimarket contact. The theoretical implication is that part-whole relationships merit deeper consideration in the multimarket contact literature. Traditionally, MMC theory cleaves organisations, addressing how contact between segments of rival organisations affects segmented behaviour. The effects found for MMCP underscore the inextricability of organisational segment and organisational whole. Micro- and macro-level decisions and behaviours are mutually constitutive. Decisions and behaviours at the periphery invoke firm-wide vision – at least if they are to bear an MMC imprint – while, reciprocally, organisational strategic orientation is produced by contacts and conditions experienced at the periphery. Research implications arising from this study are substantial. Firm-level measurement of multimarket contact activates a broad range of potential new dependent variables reflecting strategic impact.

A second major point emerging from this study is that multimarket contact amplifies rather than dampens competitive intensity along certain dimensions. Carriers with high multimarket contact postures were more likely than those with lower MMCPs to channel resources toward promotion, sales and customer service. Prevailing MMC theory, which emphasises the mutual forbearance hypothesis, neither predicts nor explains these findings. Evidence of a positive relationship between MMCP and non-price competitive intensity signifies the need for reconceptualising the mutual forbearance hypothesis as bounded and contingent. Specifically, it appears that multimarket contact may engender forbearance primarily with regard to forms of rivalry that are highly observable or particularly damaging. The research implication is that non-price competitive dimensions warrant greater emphasis in the multimarket contact literature. Whereas research traditionally asks *whether* MMC engenders mutual forbearance in the form of higher prices and margins in a given context – assuming a yes or no answer – this study's results support a re-orientation toward asking *how* MMCP affects rivalry, *where* it mutes rivalry and *where* it amplifies rivalry.

Limitations and Future Research

Although this study sheds light on firm-level implications of multimarket contact, it has certain limitations. The direction of causal pathways cannot be assessed confidently under the study's cross-sectional design. While it is more plausible that MMCP affects marketing and service orientation than vice versa, it cannot be ruled out that firms with higher marketing and service orientations are more likely to enter into multimarket contact. Longitudinal research is needed to confidently assess the causal direction between specified relationships. The study's relatively small sample size de-sensitises OLS regression analyses to all but very large effect sizes. Larger sample sizes will better equip future researchers to detect relationships between MMCP and non-price competitive behaviour. Generalisability is a concern for any study focused on a single industry. Examination of other industries is needed to determine whether hypothesised relationships hold beyond the US passenger airline industry. Another limitation pertains to the range of dependent variables used to measure non-price competition. On-time performance, baggage-handling complaints, general consumer complaints and resource allocation to promotion and sales and to passenger service represent important indicators of marketing and customer service competition, but they do not capture the full dimensionality of non-price competitive orientation. Other industries may afford better measures of customer service delivered, as well as the opportunity to examine additional non-price competitive dimensions such as innovation.

A final limitation derives from this study's assumption that the negative relationship between MMC and price competition in the airline industry – established in numerous previous studies – holds for the year 2003. The most influential studies linking multimarket contact to price forbearance in the airline industry draw on data from the years 1984 to 1988, or within the first decade following the 1978 federal deregulation. For example, Gimeno (1999) and Gimeno and Woo (1996, 1999) examined data from 1984 to 1988, while Singal (1996) examined data from 1985 to 1988. This study, on the other hand, examines data from 2003. Thus, my conclusion that multimarket contact amplifies marketing and customer service competition *while* muting price competition assumes that previous findings persist through time. Existing evidence for price forbearance, however, may be outdated. It is possible that by 2003 multimarket contact amplified price *as well as* non-price competition. Furthermore, work focused on the importance of industry concentration as a moderator of the MMC–rivalry relationship suggests that deregulation may indeed undermine price forbearance. As Scott (1982, 1991, 1993) demonstrates, the mutual forbearance hypothesis collapses in the absence of high concentration; under low concentration conditions MMC is *negatively* associated with profitability. As concentration declines, familiarity erodes, coordination becomes unwieldy, monitoring becomes more costly and mutual recognition of competitive interdependence fades. As a result, tacit collusion disintegrates and rivalry ensues. The spate of new entrants into the airline industry since the 1978 deregulation lends support to the low concentration argument. Tacit collusion borne of – and nurtured by – governmental regulation may have persisted into the early to mid-1980s time period comprising the focus of influential MMC studies, then eroded as concentration levels decreased over the following two decades. Future studies might extend analysis of MMC price effects past the 1980s and up to the present, in order to determine whether they parallel or diverge from non-price amplification.

Future research motivated by the two major lines of inquiry introduced in this study – firm-level MMC effects and forbearance parameters – might concentrate on resolving three fundamental issues. First, what attributes of a competitive dimension promote forbearance and what attributes intensify rivalry under multimarket contact? For example, does firm proclivity toward forbearance or rivalry along a given dimension ride on the difficulty of communicating and interpreting competitive behaviour, or does the potential for a form of competition to erode profit margins or grow overall market size appear more instrumental? Specification of the properties of competitive dimensions driving forbearance and the properties driving rivalry entails further examination of the non-price dimensions featured in this study, as well as examination of alternate non-price dimensions.

Second, future research should identify contextual moderators influencing relationships between MMCP and competitive behaviour. For example, do industry concentration levels moderate the MMCP–rivalry relationship? Analysis of this issue will entail either a multi-industry approach where concentration levels vary between industries or a longitudinal single industry approach where concentration varies within the same industry over time. Similarly, future research might explore moderators of the relationship between

MMCP and firm financial performance. For instance, if MMCP is found to dampen non-price rivalry along marketing or customer service dimensions in some contexts, or along alternate non-price dimensions such as innovation, might dampened rivalry along a given dimension enhance firm financial performance in certain contexts while undermining performance in other contexts? In particular, might variance in concentration levels resulting from industry entry by new competitors be necessary to expose competence depletion among industry incumbents to the detriment of financial performance? Analysis of this issue will entail longitudinal examination of an industry with both variance in concentration levels and a link between firm competencies and firm financial performance that is not heavily diluted by the influence of external environmental factors.

Third, future research should seek a deeper understanding of the process by which MMCP dampens or amplifies firm-level rivalry. Do the behaviours and outcomes of market-level decisions percolate upward to the firm level, or do market-level structural relationships aggregately affect firm-level decisions? For instance, does market-level MMC affect market-level promotional activity, which firm-level measurement merely reflects? Or does market-level MMC define firm-level MMCP, which in turn affects firm-level promotional activity? While this study found evidence of an overall relationship between MMCP and firm-level behaviours and outcomes, it did not specify the level at which decision processes were actually affected by multimarket contact because the data were not conducive to examining non-price competitive behaviours and decisions at the firm–market level. Future research in other industries should seek dependent variables at the firm–market level reflecting resource allocation to marketing, resource allocation to customer service, customer service delivered and so forth. Comparisons between MMCP effects at the firm-market level and the firm level will enable researchers to parse out the relative influence of decisions at each level, and thus to more precisely explain the process by which MMCP dampens or amplifies rivalry.

CONCLUSION

This study has highlighted a latent tension between rivalry reduction and rivalry amplification under multimarket contact. The evidence provided here compels a broader, more complex conceptualisation of multimarket contact than currently pervades the literature. The well-established tendency to reduce rivalry represents but one facet of multimarket contact's contradictory nature. A Janus-faced MMCP emerges from this study, with rivalry amplification representing the understudied countenance. The ramifications of multimarket contact extend well beyond the bounds of the mutual forbearance hypothesis, and so too should future research. Subsequent work in this domain will benefit from substituting a partial forbearance perspective for pervasive forbearance assumptions. Further validation of the mutual forbearance hypothesis represents a less pressing need than does resolution of the parameters of rivalry reduction and amplification under multimarket contact. It is my hope that, by illuminating another side of multimarket contact, this study will promote a more comprehensive accounting of MMC's strategic impact.

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Collective Creativity by Design: Learning from an Italian Fashion Design Company

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ABSTRACT

Developing collective creativity is viewed as a critical capability needed to sustain competitiveness within a variety of industries. The fashion design industry, with its seasonal cyclic demand, requires intense creativity over a short time cycle that repeats every three months. Such intensity in today's global economy relies on strong leadership to direct the creative designers, backed by precise management processes. These processes entail promoting extensive learning spread across a series of complex fields that go well beyond any single person and involve exchanging and integrating knowledge among individuals and groups. Drawing on literature in creativity and learning, this paper advances the proposal of a framework of collective creativity by design. The framework identifies the learning processes critical to developing collective creativity, the contextual features that regulate the process and the kinds of learning mechanisms that can be intentionally designed to foster collective creativity. The case study of an Italian fashion design company is used to illustrate and discuss the proposed framework. Implications for research and practice are then reviewed.

Key Words: Collective creativity; learning mechanisms; organisational change

INTRODUCTION

Organisations cannot survive, sustain their market position or increase their market share without developing new capabilities (Grant, 1996; Mohrman et al., 2006). Studies across industries and nations have identified the importance of continuously developing new capabilities (Dosi et al., 2000; Henry and Johnston, 2007). Despite the increased focus on

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this challenge, relatively little is known about how to design and develop such an organisational mechanism.

For example, the fashion industry is a knowledge intensive industry that is dependent on the continuous development of new capabilities, such as creativity. The nature of this industry and its customers forces companies to create new materials and products in rapid cycles four times a year – the seasonally driven cycle – and for different age groups. Companies tend to address this level of customer pressure by developing design and management processes that support continuous creativity.

The focus of this paper is on collective creativity by design. 'Collective creativity' is viewed as creativity that occurs in a micro social system, such as a project team or a cross-functional team. 'Collective creativity by design' refers to the intentional decision to focus on learning and implementing learning mechanisms that can prompt and sustain collective creativity.

In this paper, our aim is to illustrate the complexity of developing collective creativity and to explore the various organisational learning mechanisms that can help collective creativity to become established. In the first section of the paper, we present a theoretical analysis of literature on collective creativity and learning. In the second section, we advance the proposal of a design-based framework of collective creativity by design, drawing on the theoretical principles of creativity and learning. The framework identifies the learning processes critical to developing collective creativity, the contextual features that regulate the process, and the kinds of learning mechanisms that can be designed with the express purpose of fostering collective creativity. In the third section, we use the case study of an Italian fashion design company to illustrate the proposed framework and highlight both the role of collective creativity and its complexity. In the final section, we present the discussion and analyse the implications for research and practice.

THEORY DEVELOPMENT: BACKGROUND

The framework proposed in this paper is founded on theory and research; that is, it is based on two scientific aspects of knowledge, namely creativity and learning. In the following subsections, we will review the literature on collective-level creativity and learning.

Creativity at the Collective Level

Most companies try to promote creativity – that is, ideas about solutions, products and services that are both novel and useful to an organisation (Amabile and Khaire, 2008; Kylen and Shani, 2002). Organisational scholars argue that focusing on creativity at an individual level does not address either the nature or the complexity of the issue (Amabile, 1983; Hennessey, 2003). Moreover, creativity often appears as an elusive concept (Hogg and Scoggins, 2001) since '… the duality, paradox and contradictions of creativity are frequently acknowledged and alluded to' (Bilton, 2007: 11).

This paper is concerned with the *organisational* perspective of creativity. Within this area of scientific knowledge, creativity is viewed as more than just an individual-level-related aspect, but also the result of social interaction and social exchanges (Nijstad and Paulus, 2003). The notion of organisational creativity is viewed as 'the creation of a valuable, useful, new product, service, idea, procedure, or process by individuals working together in a complex social system' (Woodman et al., 1993: 293). Kurtzberg and Amabile (2001) claim that relatively little attention has been paid to creativity occurring at the collective level. The term 'collective level' refers to a micro social system or work unit. The concept of a micro social system originally stems from the industrial concept of 'micro units' (Quinn, 1992) and is viewed as a unit of people who work together on a regular basis performing a collective task. It has a clear business-related aim and organisational resources and work processes must be integrated to produce a desired performance outcome.

The examination of creativity at this level becomes even more significant in practice. Most creative ideas within the work context are the outcome of exchange in a collective space, when individual interactions trigger ideas through dialogue, debate and conflict (Chen, 2006; Hennessey, 2003). Creativity seems to be the result of collaboration, interaction and the exchange of ideas (Paulus and Brown, 2003) between people who work together (Amabile and Khaire, 2008; Peelle, 2006). It follows that organisations increasingly rely on specific work units to instigate creativity (Baer et al., 2010).

Scientific literature in which the terms 'group creativity' and 'team creativity' occur frequently is limited and dispersed between different perspectives (e.g. Amabile and Gryskiewicz, 1987; Amabile, 1988; Ekvall, 1999; Kylen and Shani, 2002; Taggar, 2002). These are:

1. The combination of individual characteristics in the group
2. The relationship and interaction between individual group members
3. The relationships between team members and non-team members
4. The nature of group leadership
5. The learning perspective
6. The group development perspective
7. The nature of group resources (resources-based view)
8. The nature of work environments (climate)
9. The nature of the team outcomes

A critical assessment of the relevant literature suggests that there are three main gaps in current knowledge:

1. The need for integration between the different levels of analysis (Woodman et al., 1993)
2. The need to reconcile the objectives of different players, both internal and external (Hargadon and Bechky, 2006)
3. The need for holistic action models, able to help practitioners tackle organisational change and development (Ramamoorthy et al., 2005; Cirella, 2010)

Recently, several scholars have advanced the concept of 'collective creativity' (Hargadon and Bechky, 2006; Chaharbaghi and Cripps, 2007; Catmull, 2008; Bissola and Imperatori, 2011; Hirst et al., 2011) to include, and extend, the concepts of 'group creativity' and 'team creativity', as well as introducing several individual and organisational variables (Catmull, 2008) in a multilevel perspective. 'Collectives' are nested within organisations and are composed of individual members or lower-level collectives (e.g. Morgeson and Hoffman, 1999). For the purpose of this paper, collective creativity is defined as a purposeful set of processes, activities and mechanisms established by individuals working together within an organisation, through which a new idea, product, service or procedure is generated.

This paper subscribes to this view of creativity. Collective creativity emerges from the collaboration between individuals who work together in a micro social system to solve a multi-faceted task or a project (Chaharbaghi and Cripps, 2007). Collective creativity benefits from the integration of all the 'bits and pieces' of knowledge acquired by individuals and those within their network. Therefore, collective creativity is viewed as a process driven by the desire for understanding at a deeper level (inquiry) and for action. It is the outcome of the synergy between various knowledge processes that utilise some form of learning mechanism (Catmull, 2008; Hirst et al., 2009). Collective creativity relies on the knowledge and understanding that is generated within the context of work units addressing a challenge of common concern (Chaharbaghi and Cripps, 2007).

Learning and Learning Mechanisms at the Collective Level

Individuals rarely learn in isolation (O'Leary et al., 2011). Organisations face the challenge of how to turn the learning that an individual acquires through a network into collective learning such that it can guide action and become ingrained in shared routines (Powell, 1998; Kale and Singh, 2007). Three main factors of collective learning are learning at multiple levels, practice-based learning and cross-community learning (Shani and Docherty, 2008; Grant and Baden-Fuller, 1995). Given the complexity of the factors at play, developing capability at the collective level will depend essentially on whether learning processes exist (Edmondson, 1999; Easterby-Smith et al., 2000; Gibson and Vermeulen, 2003).

Such processes seem to be present to the extent that learning mechanisms can be intentionally built into an organisation's design (Fredberg et al., 2011). An organisation can purposefully plan and build learning mechanisms that induce learning by design. Learning mechanisms are conscious, planned tools that proactively enable and encourage collective learning (Popper and Lipshitz, 1998; Shani and Docherty, 2003; Armstrong and Foley, 2003). These features can encourage dynamic learning in general, including the learning required to develop a specific new capability. Although defined and classified in different ways, by different scholars, basically a capability is the capacity to undertake a particular activity successfully in order to achieve a desired end (Grant, 1996). Dosi et al. (2000) stress the importance of a company's long-term intentions and its strategies in providing continuity, which allows capabilities to grow and show up in a company's performance, through building knowledge-based resources and routines that include search routines, decision routines and operating routines. A common theme is that capabilities are coherent mixed bundles of competencies, skills and technologies, rather than being single discrete skills (Mohrman et al., 2006).

A resource-based view of a company emphasises how it can improve its competitive position through harnessing competencies and capabilities. The supporters of dynamic capability would claim that a capability resource should be developed by design and nurtured (Azadegan et al., 2008). Dynamic capability includes other elements, such as absorptive capacity, architectural capability, combinative capability and learning capability. These confer the ability to access, import, generate and apply knowledge, enabling a collective to modify its performance and achieve different outcomes. For example, considering issues of cultural intelligence and adaptation, from the viewpoint of dynamic capabilities, organisations can develop the capability to adapt their resources and expertise to cross-cultural environments (Moon, 2010), by coordinating and restructuring resources to facilitate the learning process.

The capability to learn is a skill that can be designed rather than left to evolve or be positively encouraged (Lipshitz et al., 1996). The learning processes needed to create a new organisational capability can be planned at the individual, collective, organisational and inter-organisational levels, and specific features can be designed to initiate, facilitate, monitor, reinforce and reward this learning (Garvin et al., 2008; Sinkula et al., 1997). Exploring the literature on learning mechanisms, we can identify several different approaches, specifically the cognitive, the structural and the procedural mechanisms (Table 1) (Popper and Lipshitz, 1998; Shani and Docherty, 2003; Mitki et al., 2008; Fredberg et al., 2011).

Cognitive mechanisms are the bearers of language, concepts, symbols, theories, frameworks and values needed to think, reason and understand consistently with one's newly acquired capabilities. Cognitive mechanisms are the principle means whereby an understanding is reached among all employees about the characteristics of such a capability, the need and priority of such a capability for collective creativity within the company, and the learning and changes required to realise it. Cognitive learning mechanisms are 'a foundational part of the emergent multi-level and cross-community social fabric of the firm, and underpin the dispersed practice-based learning processes' (Fredberg et al., 2011: 123).

Structural mechanisms are organisational, physical, technical or work system infrastructures that encourage practice-based learning. Organisational mechanisms enable the collaboration and debate required for collective learning of new practices. Technology mechanisms include learning centres, e-learning programmes, databases and data warehouses, and data sharing systems. Structural learning mechanisms may include communication channels and the establishment of lateral structures to enable learning new practices across various core organisational units; changes to the work organisation, including the definition of roles and the establishment of teams with shared accountability leading to a mutual need to learn; and learning-specific structures, such as parallel learning structures, bench-learning structures and process improvement teams (Fredberg et al., 2011).

Procedural mechanisms concern the rules, routines, methods and tools that can be regulated and adopted within the organisation to promote and support learning. These may include tests and assessment tools and methods, standard operating procedures and methods promoting specific types of collective learning. The focus of the routine or work process will influence the degree to which the procedural learning mechanism is multi-level and crosses community boundaries. 'Democratic dialogues', work-based dialogue and de-briefing procedures are methods that have been applied successfully, allowing participants to learn systematically from each other's experiences through reflection and the encoding of new knowledge into new practices and/or repositories (Fredberg et al., 2011).

Table 1: Synopsis of Learning Mechanisms

Categories	Key Features	Types and Examples
Cognitive mechanisms	Promote and support learning through thinking, reasoning and understanding learning issues	Language, concepts, models, symbols, theories and values (e.g. company value statements, strategy documents)
Structural mechanisms	Promote and support learning through organisational, technical and physical infrastructures	Feedback channels, communication channels, technical structure, physical structures, fora and arenas (e.g. learning centres, data warehouses, spatial design)
Procedural mechanisms	Promote and support learning through rules, routines, methods and tools institutionalised in the organisation	Methods, models, procedures, rules and tools (e.g. tests, assessment methods, operating procedures)

Source: Adapted and modified from Shani and Docherty (2008: 504)

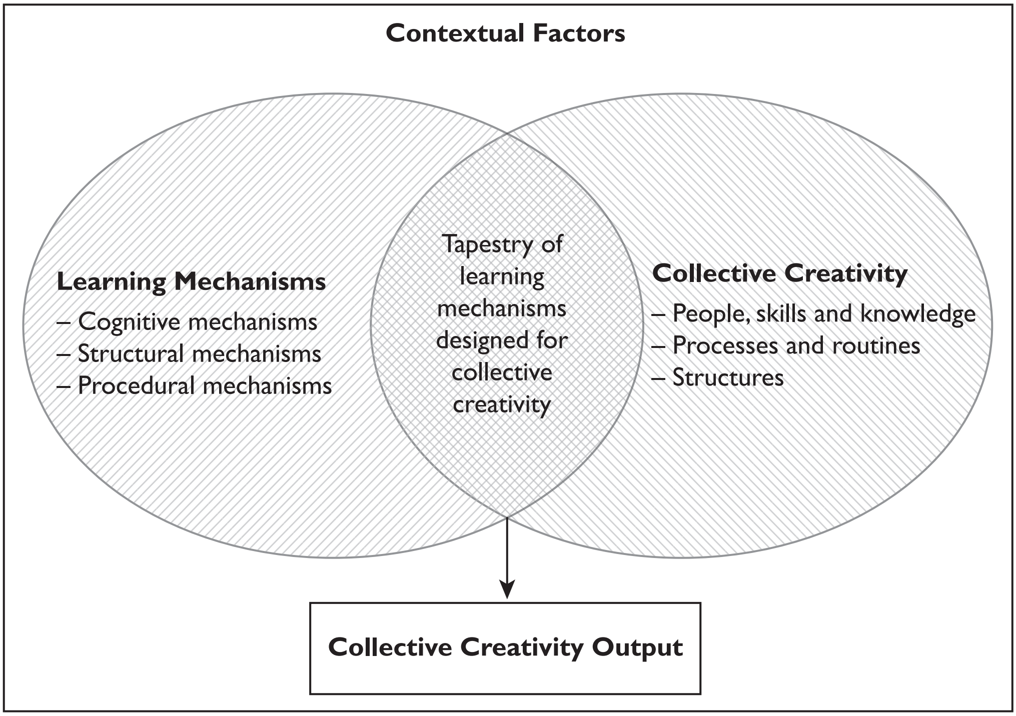
Linking 'bits and pieces' of wide and complex bodies of knowledge – such as creativity, learning, learning mechanisms, design and strategy – presents a challenge and entails choice. At the base of the proposed collective creativity by design framework is a design-based concept that links the different fields together. The framework attempts to explain the essential elements, the systemic requirements and the different challenges that relate to the great many changes required to enhance creativity within work organisations.

COLLECTIVE CREATIVITY BY DESIGN: A DESIGN-BASED FRAMEWORK

An organisational design-based perspective integrates both structures and processes. This section presents a dynamic design-based framework for collective creativity development (Figure 1). The framework is composed of five interactive clusters, specifically contextual factors, learning mechanisms, collective creativity, tapestry of learning mechanisms and collective creativity output. Within the dynamic nature of the context, the central part of the framework represents the intersection between learning mechanisms and creativity at the collective level. The output corresponds to the set of components developed from collective creativity.

Learning dynamics occur in a specific context of networks. Internal networks include social and professional networks within the organisation, while networks external to the organisation can be communities of practice and professional associations. These learning processes often occur across groups, teams and communities, and involve individuals and collectives within, and often without, the organisation, leading to systemic learning at both individual and collective level. The nature of learning mechanisms sets the stage for the development of collective creativity, involving skills, knowledge, routines, structures and processes, norms and values.

Figure 1: Towards a Design-Based Framework of Collective Creativity Development



The quality, efficiency and effectiveness of the learning processes leading to the adoption and regulation of new capabilities within an organisation are affected by learning mechanisms. Learning mechanisms are cognitive, structural or procedural features that encourage and facilitate learning processes. They are often consciously designed and implemented for that purpose.

The central flow in the proposed model goes from the complex environmental and organisational context through the organisation's business strategies to the perceived need for capabilities within the organisation that can generate the desired output of creativity, goals and objectives. The development of these capabilities is enabled by the nature and dynamics of the actual learning mechanisms tapestry designed and implemented by the organisation. While the model presented can help to explain and predict creativity outcomes, it is, however, too simplistic an approach to allow us to explore the dynamics and complexity of collective creativity. In the next section of the paper, we will provide an illustrative case study of an Italian fashion design company. The framework is used to illustrate the company in relation to collective creativity and learning.

ILLUSTRATIVE CASE: AN ITALIAN FASHION DESIGN COMPANY

A multi-phased collaborative research involving one of the top five companies in the Italian fashion design industry provided the data for the case analysis that follows. The company designs and produces silk accessories for men and women, such as scarves, ties and womenswear. The aim of the study was to explore the nature of creativity and how this creativity can be enhanced.

Method

The study represents a part of a collaborative management research process (Cirella et al., 2012), developed following an intervention research approach (Hatchuel and David, 2008). This involved detailed, semi-structured interviews, based on an interview protocol that included questions about the company in general (its markets, products, strategy, structure, processes, challenges and plans for the future) and questions about collective creativity and its meaning, the practices followed when developing creative projects, competencies and resources (questions were chosen from a variety of sources in the scientific literature). The interview protocol and the topics covered in the interview were developed together with company representatives who were part of a joint research team composed of researchers and practitioners. The interviews took place with senior managers, key product managers, designers, colour experts and salespeople (i.e. all the different roles within the unit). The interviewees were selected from units working on three different projects. Table 2 outlines the profile of the interviewees.

The interviewees were initially contacted by phone; they were then sent an email describing the objectives of the research project, the methodology used and the structure of the interview. All the interviews took place face to face, were conducted in Italian and lasted between 45 and 90 minutes. They were carried out by two researchers who had the task of conducting the interviews. The participation of the two researchers was critical both in facilitating dialogue and to ensure that the questions made sense. A total of 21 interviews were carried out, which were all taped and transcribed. Data were analysed using a set of default variables, including the meaning of creativity, key influential factors, the characteristics of the process, required skills and achieved outcome. Each transcribed interview was read, coded and analysed by two different researchers to determine the different relevant aspects. We then prepared a comprehensive analytical report. The data were organised and clustered according to the default variables, preserving the anonymity of the interviewees. The document, including both the most frequent, representative raw responses and the content analysis, was distributed within the company for the entire collective to make sense of the data and create a collective meaning. For the purposes of this paper, some of the data from the total set of data collected were extrapolated with the objective of illustrating the different elements of the framework, and the quotes were translated into English.

Table 2: Key Characteristics of the Interviewees

Roles	Description of the Roles	Number of Interviewees
Senior management	CEO and the other members of the management team; the heads of the business units (including the design unit)	6
Product manager	Person responsible for a specific collection; each manages a small group of clients	3
Salesperson	Salesperson for a group of clients; each gives strong support to the product managers in meeting the clients, analysing sales data and studying the markets	2
Designer	Person responsible for the creation (design) of the products; usually works for a specific client over a given period; the atelier is the sub-unit that gathers together the designers and is headed by a senior designer	6
Other experts	Support product managers and designers in developing product design; they include brand managers (give marketing support on own brands), company archive managers, colour experts (the so-called 'variantista', who try colour changes in textile printing), Jacquard experts (expert in different printing techniques using a special mechanical loom, called a Jacquard) and print experts/technicians	4

The Company

Located in Como, the company was founded at the beginning of the twentieth century. Since then, it has grown into one of the market leaders in silk fabrics and in designing and manufacturing accessories. The company has always been a privately held, family-owned and family-managed company. Three generations of the family have led the company since its establishment (and a fourth is now part of the company's management team). During the 1970s, the company strengthened its international presence by opening commercial offices in New York, Paris and Hong Kong. In the early 1990s, they opened an office in the Zhejiang province, China, in order to increase control over raw materials. The company invested heavily in providing advanced technological know-how to bring both the quality and reliability of products up to acceptable standards. These challenges did not produce the intended results. Unsuccessful investments in China and increased global competition translated into financial losses during the period 1999–2001. This losing trend continued over the following years. Attempts to fight the continuous financial losses did not yield any major success and, in December 2006, the board hired an outsider as the chief executive officer (CEO). The new CEO had a strong background in finance and he handled, first and foremost, the financial emergency. He then formulated a strategic business development plan that centred both on efficiency and on improving customer service.

Contextual Factors

The organisation evolved with a multi-phased corporate restructuring process. The main drivers for restructuring were to cut overhead costs and reorganise the commercial and production divisions. The old organisation was function-based. Changing this approach, the company introduced a hybrid client-based structure which segmented clients (by price, product, creativity, etc.) and the ways to serve them (different distribution systems). While the positive results of the restructuring were becoming apparent, the global economic crisis hit both the company and the entire industry, especially from 2009. These economic pressures resulted in cutbacks throughout the organisation, in working hours, budget and workforce. A new company mission was sorely needed to express its goals both in terms of company profitability and high quality of service to its customers, by pledging its commitment to continuous creativity, innovative design and high quality products.

Learning Mechanisms

The organisation used a variety of learning mechanisms to enhance creativity. The cognitive learning mechanisms seem to play an important role in how the company functions. For example the company mission statement – viewed as a cognitive mechanism – was revised (September 2010) to involve its employees in its new strategies and their implication. The mission states:

> Our mission is to grow profitably, while offering outstanding service to our customers. We endeavour to guarantee excellence and leadership in the area of textiles and accessories, through the quality of our unique and innovative creations.

The revised mission statement reflects and emphasises the combined drive for profitability and a high quality of service to its clients; the two goals are connected to the 'unique and innovative *creations*' (emphasis added) that the people within the company attempt to realise every day to satisfy the continuously changing needs of the market. The mission outlines a specific concept of creativity; that is, not the artistic creativity in crafting works of art, but creativity from an organisational perspective to develop the capability of world-class creativity.

Structural learning mechanisms include different visible structures within the company to sustain organisational learning, including periodical staff meetings (held by the CEO) and, importantly, the design and maintenance of a company archive containing all the designs, materials and collections created by the company since its inception. The archive (or, as it is fondly known in the company, the 'Library') is one of the most comprehensive in the fashion and design world, and contains all the company's developments in silk over more than 100 years. This learning mechanism represents an important source of inspiration and continuous learning and yields creative ideas for designers. As one designer stated:

> This thing about the archives is very interesting because you are inspired by many things that others have done over the years .... One never knows what will get triggered by whom and when … just sitting in the library with your team and discussing what other ideas were sparked seems to generate a whole new set of ideas.

Procedural learning mechanisms are also visible within the company. One example is the review of procedures, representing an opportunity for the systematic reflection on completed projects (i.e. a collection for a client). Although the process of post-collection reviews is the responsibility of each product manager, the review procedure enables collective reflection and learning. This helps prevent any similar mistakes from being repeated and to inform everyone about the lessons learned, and therefore support continuous improvement. As one designer stated:

> We must be creative, and our creativity must be proactive and focused; to achieve this, we must know our clients and their tastes very well. We need to explore and understand the nature of our past experience with them. The greater the knowledge you have, the easier it gets.

Work Design and Collective Creativity

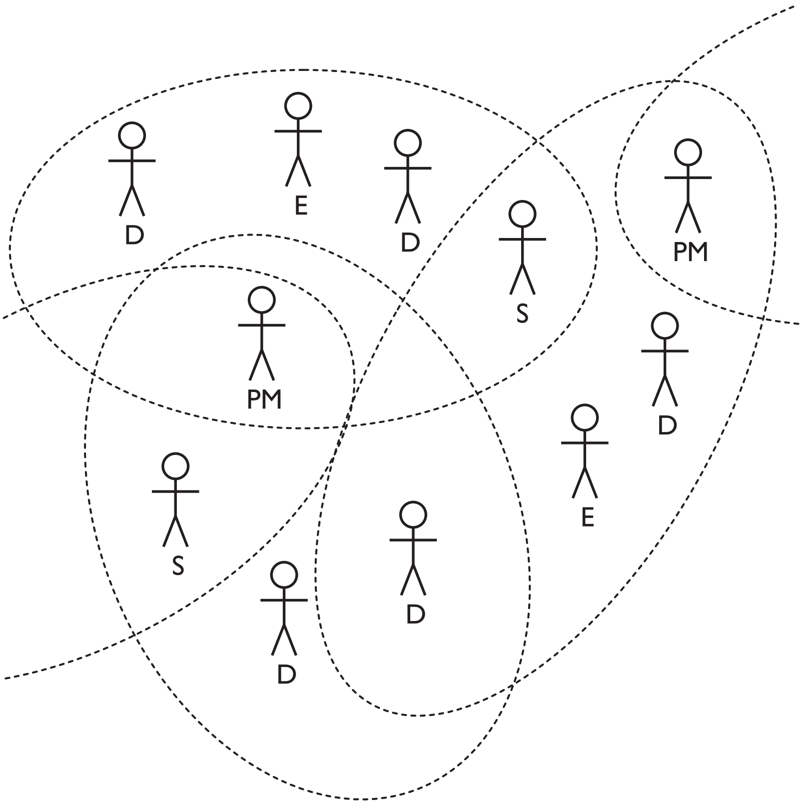
The company covers the premium market segment of silk products and its clients are the largest, best known players in the fashion industry. Since each customer – on average – commissions four seasonal collections per year (each of which can include several different elements), the company must be able to generate new ideas continuously. The expectation in the industry is that each collection is to be distinctly different from the previous one; the driving pressures seem to be on continuous creativity.

In the design unit, people are given the task of working with a specific client on their collection. This collective of individuals usually consists of a product manager, a salesperson and between three and five designers from the company atelier – the sub-unit that gathers together all the designers. Other people may be involved on an as-needed basis, for example specific colour experts or technicians. The collectives are not viewed as rigid fixed teams (they may change with each occasion, that is, every collection required by a client), although several usually stay as the 'core group' working with a specific client (this is particularly true for designers who have established special relationships with some customers for whom they usually work and they are familiar with the style required). Each person may be part of a different collective at any point in time.

The work units in the company are of a dynamic nature and are flexible and adaptable, inserted within internal (other collective entities, other units) and external networks (clients, suppliers). In these collective entities, salespeople are associated with specific clients and product managers, but they do not necessarily work with the same customers. Designers are selected for a particular project (i.e. a collection for a client) based on their expertise with regards to specific customers and their requirements, and on whether they are available. This flexibility within the collective is seen as a critical element of creativity. As one product manager stated:

> Collective creativity also comes from the continuous exchange of information .... The collective creativity process integrates experience from different projects, diverse groupings of clients and interaction with others inside and outside the company.

Figure 2: An Illustration of the Collective Entities



PM: Product Manager
S: Salesperson
D: Designer
E: Specific Expert (colour expert or technician)

Figure 2 visually explains how a collective evolves around a new collection for a client. The lifetime of a specific collective entity is typically the development period of a collection.

Learning Mechanisms Tapestry Designed for Collective Creativity

In the case presented, learning mechanisms and collective creativity are clearly visible to the individuals, as described previously, but this does not always guarantee the development of collective creativity (via learning mechanisms); a specific tapestry of learning mechanisms can be designed consciously for collective creativity. For example, a single mechanism (such as the archive) cannot sustain the development of collective creativity on its own. As one senior manager said:

> The archive was the reason why I changed my job. It is the biggest library about silk in the world. Bigger than any other .... But my point of view is that [creativity] must not only be understood, but also needs to be managed. We need to combine the archive with our internal systematic data on creative processes.

In his statement, the manager claims that, in this complex tapestry of learning mechanisms, a structural mechanism (the use of the archive) has to be interwoven with procedural mechanisms (such as review procedures for continuous improvement) within cognitive mechanisms (such as a shared mission, a creative organisational culture). This tapestry therefore involves an entire collective entity and has an impact on creativity at the collective level. As another product manager said:

> When the designers, arguably the most creative group, start work, they need to work with the technicians, the colour experts, the product manager, the salesperson and maybe also others. It is this interweaving of skills and how the process is managed that breeds success.

The realisation that a tapestry of learning mechanisms can aid the collective creativity processes and outcomes seems to be reflected in how people describe their working processes. Actually designing such mechanisms remains an ongoing challenge for management, and it requires more systematic exploration of choices and actions.

Collective Creativity Output

Collective creativity by design means *creating* new solutions that are effective and coherent with the objectives set out by the organisation. In this case specifically, according to the company's mission statement, this means both client satisfaction (through the products designed, e.g. the number of products that are selected to be worn during fashion shows) and achieving positive economical results for the company. Other factors are the satisfaction of individuals within the collective entity to be part of the collective process of creativity, and how original the product is (in aesthetic terms).

One example representing the high level of output from collective creativity is a collection for a famous luxury fashion client, here called FASHION. In this project, the product manager and the head of the atelier had to work together and cooperate closely. The product manager was not in a position to supervise the unfinished drawings and their development scrupulously, as she was involved in preparing the successive development phases for a new product, which meant that she had to spend a great part of her time in the printing shop trying out the new creation and its process. She said:

> FASHION is a race against time, so my job is to organise the next phase in order to deliver the printed samples. You direct work according to the day-by-day reaction of the client, even a simple sentence said on the phone. For example, by adding their logo if they happen to mention it.

Due to the short time frame, colouring was carried out in parallel with the drawing, by the same designers. As the show was imminent, they already knew the colours they wanted. In this case, they involved inkjet computer-aided design (CAD) technicians. Starting from the idea to use a chandelier, and following input from FASHION, they then moved to baroque frames, a theatre bar, neon lights and even fake flowers. Several designers belonging to this group visited a cemetery to study fake flowers and take this concept further. Specific searches were made through the archive; the team's knowledge about the client allowed them to search for items in the archive in a very specific, focused way. Being able to carry out the processes in parallel meant that the collective entity could deal with challenging requests for creations; it constantly had to re-start and propose new concepts or re-work previous ones, generating proactive ideas and possibilities. The most immediate result of this collective creativity process, supported by a tapestry of learning mechanisms (the archive and the systematic knowledge of the client) was the large number of items in the client's collection, especially when compared to the company's direct competitors. As the head of the atelier said:

> In the end it was a success, because six designs were printed and three were worn during the show.

The general impact of the actions carried out by management to achieve a creative outcome of *excellence* (collective creativity by design) was reflected in the company's financial figures. In 2010, the net income was nearly €1 million and the company was once more profitable, following six years of losses. This result is particularly significant considering the context. Three similar companies in the district, all competing in the same market segment, were reviewed in an Italian national newspaper in February 2011 and the CEO of our case company, when interviewed by the journalist, attributed the company's turnaround to its initiatives involving collective creativity (Pagni, 2011).

This section analysed the representative case of an Italian fashion design company to illustrate an effort of collective creativity. The case was organised and examined using the proposed collective creativity framework. In the next section, the framework will be discussed, using the elements from the case illustrated above, to define the boundaries and characteristics of a specific field undervalued so far in literature.

DISCUSSION

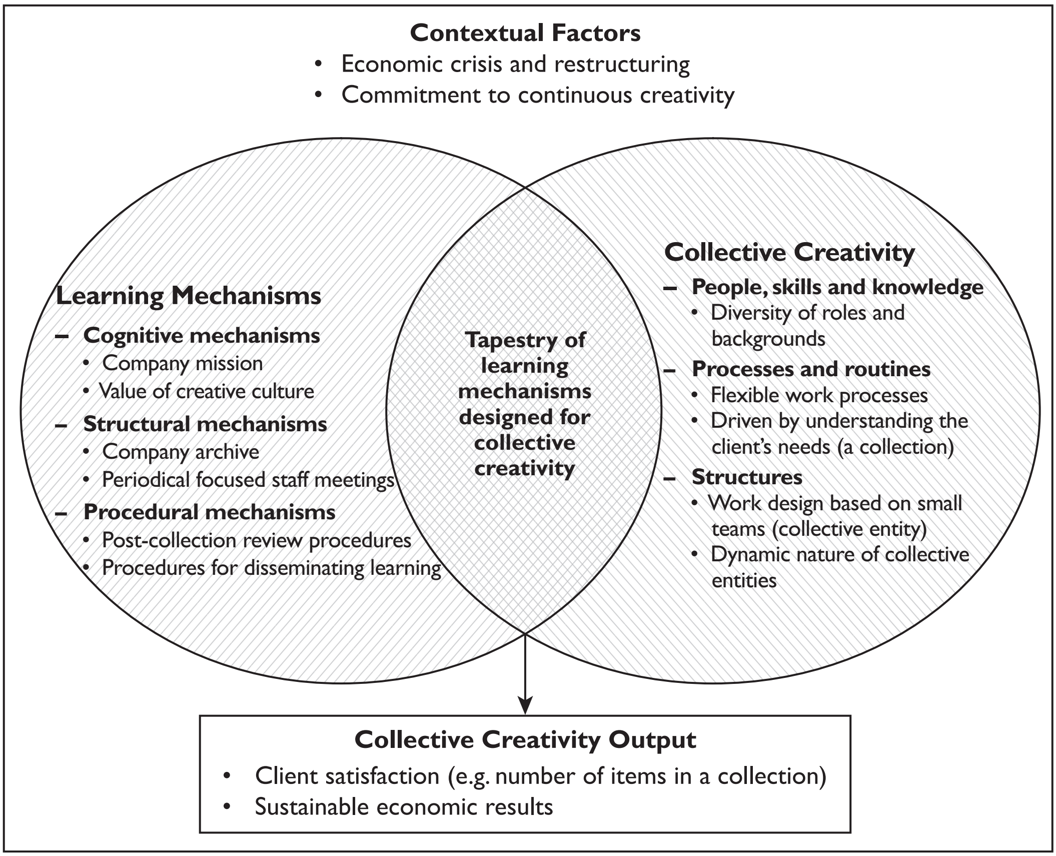
This section builds on the case illustrated and proposed literature. The framework is discussed in light of its basic parts, namely the learning mechanisms and the contextual factors, the development of collective creativity and the collective creativity output (Figure 3). We will discuss some of the study's limitations, its implications for practice and the direction of future research.

Learning mechanisms are organisational features that foster required learning processes (Lipshitz et al., 1996). Although some may simply emerge informally, the argument advanced in this paper is that learning mechanisms can be designed with the specific purpose of promoting a more rapid development of collective creativity. Because the learning of capabilities necessarily occurs in the context of a complex system, appropriate learning mechanisms must be consciously designed (Hirst et al., 2009; Hirst et al., 2011). In the case illustrated, the possibility of consulting the recent history of a client, using ordinary practices, established a routine that both enhanced and sustained the process of developing collective creativity. The complexity of collective creativity suggests that the learning processes, based on the literature, would benefit from being (1) practice-based, (2) experimental-based, (3) multi-level, (4) cross-community, and (5) systemic and integrative. Sustaining such learning processes requires appropriate learning mechanisms. The literature argues that the effect of these learning mechanisms on the development of collective creativity is also regulated by the contextual factors proposed in the framework: the complex dynamics of these contextual factors can promote or inhibit the learning mechanisms from being established, even when such a need is well understood (Shani and Docherty, 2003; Mitki et al., 2008; Fredberg et al., 2011). Contextual factors can be seen at different levels, specifically in a business context, e.g. the state of economy, features specific to the industry and to the region (e.g. McDonnell et al., 2010); organisational features, e.g. strategy, design, technology, social issues, cultural issues and human resource practices, such as communication (e.g. Heffernan et al., 2009; MacKay and McKiernan, 2010); team features, e.g. task, composition and resources, skills and knowledge, team dynamics, working routines (e.g. Bassett-Jones, 2005); and individual features, e.g. skills and abilities, personality, motivation and basic demographics – education, experience, age, gender (e.g. Faucheux and Moscovici, 1925).

Contextual factors and events have a strong influence over the dynamics under study (Amabile, 1988). For example, regarding the business context, the case showed that an organisational turnaround can underline the need for collective creativity. It could therefore provide an opportunity to promote and accelerate the establishment of learning mechanisms for collective creativity. But, if not addressed and managed, it also could lead to apprehension within the organisation that could inhibit these learning mechanisms and learning processes from being established. For example, all the changes taking place in the company could mean that new managers may not be informed about company practices and processes, or indeed, may not even want to be informed.

Moving to the core of the framework, collective creativity development can occur at a faster rate if the organisation has built a tapestry of learning mechanisms that include a combination of structural, procedural and cognitive mechanisms (Popper and Lipshitz, 1998; Shani and Docherty, 2003; Mitki et al., 2008). Each organisation is likely to design its own unique learning mechanisms tapestry to fit the nature of its specific organisation and business context. The key features of the learning mechanisms tapestry promote a new set of competencies, which constitute this development (Friedman et al., 2001). Considering the illustrative case, the argument is explicit, because the high level of collective creativity needed is continuously developed through a specific, complex tapestry of mechanisms. At the cognitive level, the organisational culture has to emphasise the mix of competencies in learning structures and procedures that are needed for collective creativity (Kenny and

Figure 3: Partial Illustration of Empirical Data from the Case



Reedy, 2006). If learning structures and procedures are not designed and aligned in a way that promotes and enhances creativity, events and problems will very likely be managed without seeking either to reframe the existing understanding or to reformulate current knowledge (Antonacopoulou, 1999).

This hybrid collection of structural, procedural and cognitive mechanisms can help the learning processes within work groups and between individuals or groups from different sets and networks (e.g. different levels in an organisation, different organisations and different contexts). These must address different skills ('the interweaving of competencies' (a product manager) in this case), experiences, values, professional or organisational identities, goals and priorities. An approach based on competence must be connected to group and social dynamics (Antonacopoulou and FitzGerald, 1996). It is especially important to ensure efficiency in learning across internal and external sets, where there are different learning contexts. The extent to which learning mechanisms span different sets and networks, and connect and give voice to different players in the respective systems could indeed enhance the value and effectiveness of the output from the collective creativity. For example, in the case illustrated, learning *with* the clients appears to be critical for collective creativity and its results. Such dynamics strengthen the way in which the collective creativity output produces added value for the company.

The literature also yields several parameters that can be used to evaluate a creative process, such as originality, fluency, disciplinary open-mindedness and flexibility towards new ideas. When the focus shifts to collective creativity in organisations the output of creativity at the collective level influences the way target results for the task assigned to the group of people working together can be achieved. This leads to the argument that the main parameters of the output generated collectively include its economic results (in this case, the amount of sales of a new product), client satisfaction (in this case, whether the company's designs appear at the most prestigious shows where the clients' collections are presented and, in the long term, the ability to retain the most prestigious companies as clients), the satisfaction of the people who contributed (in this case, the satisfaction of designers and managers, which influences the climate within the organisation), and the originality of the output (in the case, the aesthetic merits of a new collection).

The complex nature of both the topic and the study exploring this topic does have a few limitations that can be overcome with future investigations. The framework proposed was basically derived from scientific literature and explored through the case study. As such, further scientific investigation to examine the possible causal relationships within the framework would be of added value. Another limitation concerns the generalisation of the results. These were based on the study of a fashion design company in northern Italy. Further studies should explore the nature of collective creativity in other industrial sectors and in other contexts, both cultural and at a national level.

Directions for Future Research

This paper and the proposed framework provide the opportunity to advance scientific knowledge in a variety of areas and directions. According to the literature, the mechanisms of organisational learning are gaining relevance within the debate on management topics as a way of supporting the development of different organisational practices and processes of change across a wide range of fields. In current literature, however, there is no specific research that focuses on the impact of learning mechanisms on the practices of collective creativity within micro social systems.

Future research could be directed at investigating the effects of different combinations of learning mechanisms (learning mechanisms tapestries) on the development of collective creativity. It could explore different types of micro social systems to enhance both learning mechanisms and collective creativity, collective creativity output parameters relating to the effect of the tapestry of learning mechanisms designed for collective creativity, the possible relationships between individual and collective creativity, and the relationship between internal and external networks and the development of collective creativity.

Finally, a collaborative research structure (Coghlan and Brannick, 2005; Cassell and Johnson, 2006; Shani et al., 2012) is likely to generate new insights into both theoretical development and management practices. Due to the complexity of this issue, it is likely that research should combine qualitative and quantitative methods. For example, further investigations could attempt to make the framework operational (following Morgeson and Hoffman, 1999) and quantify the interactions between the different elements empirically.

Implications for Practice

Practitioners face increasing challenges in promoting creativity in the workplace. The dynamics of creativity, the many factors that can impact on creativity and the difficulty in developing collective creativity are complex and not easily understood. In this paper we provide a comprehensive framework that analyses the issue of collective creativity and can improve the understanding of the levers that promote the development of collective creativity. This framework supplies a way to map out learning mechanisms within an organisation. It also provides a roadmap to help design the particular learning mechanism tapestry that fits a specific organisation and its business context. Common to the three types of learning mechanism – cognitive, structural and procedural – during the process in which collective creativity is being developed, is the fact that they stimulate the creation of a new shared meaning and enable learning and the generation of knowledge across multiple networks and communities, throughout different hierarchical levels of an organisation and across the boundaries within an organisation. They build learning into the organisation's routines, so that it becomes synonymous with the development of collective creativity and its output. Lastly, the structure provides a holistic perspective that can guide the actions of managers at all different levels within an organisation, who desire to improve or promote collective creativity and its results.

Conclusions

This paper combines different literatures that traditionally have not been integrated. In doing so, we hope to provide value to practitioners and scholars. The components of the framework proposed integrate current theory and empirical research on creativity, collective creativity, learning mechanisms and processes. We discussed the theoretical foundations of the framework and possible interactions between the elements of the framework. The complexity of the relationships suggests, however, that there is a need for further research to highlight how extensive and intense these relationships are.

While it remains a fundamental challenge for many organisations, the complexity of collective creativity by design helps us to appreciate why scientists studying organisation-related topics and organisations generate only limited research or indeed have produced different versions. Developing collective creativity has received limited attention in the areas of strategy, organisational learning and networks. We synthesised knowledge found in the literature to create and propose a systemic model that could advance scientific knowledge and be of practical use for managers wishing to implement processes to enhance collective creativity.

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Club 2.0: Investigating the Social Media Marketing Strategies of Nightclubs in the Midlands and West of Ireland

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ABSTRACT

Social media is already an established feature in the marketing strategies of large global brands. This study explores how the social media success stories of large global brands may be emulated on a smaller scale by nightclubs in the midlands and west of Ireland. The topic is explored from both consumer and organisation perspectives. Focus groups were conducted with target consumers and in-depth interviews were carried out with nightclub marketing personnel. The findings indicate nightclubs are highly compatible with social media, but nightclubs are not using social media to their full potential; instead they are adopting an unstructured, outdated approach. This study adds to the debate on the role of relationships and promotion in social media marketing by presenting a cross-sectional account of the current use of social media marketing. The resulting framework is designed for nightclub marketing managers as a tool to enhance their social media marketing strategies.

Key Words: Social media marketing; web 2.0 marketing; online marketing; service marketing; hospitality marketing; nightclub marketing

INTRODUCTION

Since the inception of the internet forty years ago many new applications have been created. One of the most recent innovations to emerge is web 2.0, 'a collection of web services which facilitate certain behaviours online, such as community participation and user-generated content' (Chaffey and Smith, 2008: 499). Examples include the micro-blogging site Twitter, the social networking site Facebook, and the video-sharing site YouTube. Circle (2009) lists these particular web 2.0 applications among the top future marketing trends. The addition

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of a Masters degree in social networking at Birmingham City University further illustrates this growing trend of using social media for communications and marketing purposes (Birmingham City University, 2009). Many organisations have begun to realise the power and potential of these new communication channels. Social media is already successful as a marketing channel for many large global brands. One need only look at Dell's micro-blogging on Twitter or Ikea's innovative use of photo tagging on Facebook for proof of this success (Circle, 2009; Warren, 2009). However, the most recent social media marketing industry report indicates social media marketing is still in the preliminary stages of development. 'A significant 88% of marketers surveyed are using social media to market their business, but 72% have only been doing so for a few months or less' (Stelzner, 2009: 5).

As an entertainment industry, the Irish nightclub industry has been one of the major casualties of the recent economic recession. The number of organisations operating in the industry is declining steadily, in line with the decrease in the discretionary income levels of consumers (Vintners' Federation of Ireland, 2009). An emerging trend within the industry is the use of social media as a marketing solution to overcome the effects of the downturn; however, the levels of success appear to vary greatly among organisations.

The likelihood of compatibility between nightclubs and social media marketing is high. As small and medium enterprises (SMEs), most Irish nightclubs have a lower percentage of their budgets available to spend on marketing compared to large global companies. These budget constraints, coupled with the low costs generally associated with social media marketing, suggest a substantial opportunity for SMEs to increase their marketing activity, relatively inexpensively, through social media marketing. However, the use of social media within the Irish nightclub industry is an unexplored topic and, while many organisations within the industry are engaging in social media marketing, detailed information on best practice is not currently available within the literature.

LITERATURE REVIEW

'Social media' is the broad term used to describe web 2.0 tools and applications built specifically for the purpose of allowing users to interact and socialise with others on the internet, including applications such as message boards, blogs, wikis, podcasts, instant messaging, social networking, email, and photo and video sharing (Preziosi, 2007; Miletsky, 2010). Much of the literature suggests marketers should use social media simultaneously to complement their other online marketing strategies. Antion (2005) and Pattison (2009) also advocate using an independent website with its own domain name to reach potential customers who are not active on social media websites. The general consensus in the literature regarding the use of social media websites, as opposed to using independent websites, is encapsulated effectively by Kirby (2010), who concludes that a company-specific website should be complemented by social media tools to drive traffic to the company-controlled portal (Kirby, 2010).

The number of Facebook users reached a milestone 500 million in July 2010 (Wortham, 2010). Giles (2010) likens this to the populations of the world's largest nations, highlighting the current popularity of the world's biggest social networking website.

However, critics such as Raskin (2006) believe the popularity of Facebook may actually lead to its ultimate demise, as it becomes oversaturated with marketers' messages. Morrissey (2010) reinforces this crowded image of Facebook and suggests the micro-blogging site Twitter as a less cluttered and more unique alternative for marketers who wish to engage in social media marketing. Research conducted by Jansen et al. (2009) indicates 19 per cent of micro-blogging sites contain mentions of brands, indicating micro-blogging is a feasible and practical channel for SMEs in terms of implementing marketing campaigns and nurturing customer relationships. While recognising the widespread use of Twitter among companies of all sizes, Klara (2010) believes it is the smaller companies, such as nightclubs, which have the most success when using Twitter.

According to a study conducted by Forrester Research, younger generations are frequent viewers of online videos (Haven et al., 2006). The young demographic of this audience suggested by the Forrester report indicates YouTube may be an effective means of targeting young nightclub patrons. However, Haven et al. (2006) caution about the resource requirements of incorporating YouTube into a social media marketing strategy. Although little monetary resources are presently required to implement a YouTube campaign, substantial effort and high-quality, creative video content is essential in order for an online video marketing campaign to be effective (Haven et al., 2006).

Authors writing on the topic of social media marketing, such as Preziosi (2007) and Greenberg (2009), readily accept the inclusion of short message service (SMS) marketing into the social media category, in its broadest sense. Chaffey et al. (2009) also recognise text messaging as a commonly used channel for communicating with consumers, yet they are sceptical of its effectiveness in comparison with other social media channels. According to Chaffey et al. (2009: 554), the 'level of activity in e-mail marketing is much higher than mobile text messaging' and they suggest the reason for this relatively low usage of text message marketing is largely due to the intrusive nature of text messages compared to permission-based email marketing. Although these channels are currently the most popular social media channels among nightclub consumers, it is not known how long this popularity will persist. Andersen (2008: 2) believes the speed at which social media tools develop may make social media websites dangerous territory for marketers and he cautions marketers against investing and committing substantial amounts of resources to social media marketing, referring to social media websites as 'potentially fleeting properties'.

Strong ties with consumers are essential for social media marketing to be effective. Brown et al. (2007) believe the marketing potential of word-of-mouth activities associated with social media and the level of impact word of mouth has on the consumer decision-making process and attitude formation are limited by a number of key factors, including tie strength. They explain tie strength as the closeness of the bond between the information hunter and the source – the stronger the tie the more effective the marketing activity will be, thus highlighting the importance of relationships.

Cram (1994) and Skinner et al. (2005) counsel against over-reliance on price-based competitive techniques such as drinks promotions in nightclubs as they may result in negative outcomes by provoking a price war, damaging the company image and diverting attention from customer needs. However, the possible short-term benefits associated with price competition may make it difficult to resist. Furthermore, Chaston and Mangles (2002) explain it is more tempting for service companies, such as nightclubs, to engage in online price-based competition because prices are more visible to consumers online and therefore they are easier to compare. In the offline environment, price information is not as readily available or as easily compared due to consumers' time constraints, which prevent them from seeking out competing prices.

Kunur (2010) recommends staff outside of the marketing department should also be involved in the organisation's social media activity as it can be employed at every stage of the selling cycle. He suggests adopting a model that incorporates a combination of centralised and distributed responsibility. However, Gay et al. (2007) believe getting buy-in from other areas of the business, particularly from management, may be a challenge for some organisations. This difficulty emphasises the need for top managers to be committed to the concept of e-marketing and to share their enthusiasm as internal champions.

The literature on social media marketing, while not extensive, deals predominantly with strategies, tools and online consumer behaviour; less attention has been focused on the area of measurement. The reason for this lack of attention to measures of social media marketing campaigns may be partially attributed to the difficulty of measuring such campaigns. It appears the most effective social media tactics are often not as measurable as their less effective counterparts. Maddox (2009), one of the few authors to touch on the subject, highlights the shortage of concrete measures available to organisations to accurately determine social media's actual contribution to revenue growth. However, Kirby (2010: 40) underplays the significance of financial measures by suggesting 'return on investment is only one way to gauge the success of a campaign', and advises complementing return on investment with other measures such as return on engagement.

RESEARCH DESIGN

This research project takes a cross-sectional view of the current status of social media usage among nightclubs in the midlands and west of Ireland, using a mixed method approach. The primary data collection process was carried out in two phases: 1) consumer focus groups and 2) organisational interviews. A self-selection sampling technique was used to determine the focus group sample. In total, ten nightclubs (five rural and five urban) and twenty-eight consumers (fifteen females and thirteen males aged between 18 and 30) took part in the study, and the responses were analysed using the qualitative analysis technique known as template analysis.

FINDINGS AND DISCUSSION

Several key findings emerged from the research analysis in areas such as social media experience, social media relationships, social media trends, and the management, implementation and measurement of social media marketing campaigns. The findings from both data collection processes are discussed simultaneously.

Social Media Experience

All ten nightclubs studied have an active presence on the internet and in the social media world. However, variations exist between the levels of activity and depth of experience they have regarding the use of online tools such social media; these variations are summarised in Table 1.

Table 1: Online Marketing Experience of Nightclubs

Nightclub	Independent Website	Year Joined Social Media	Hours per Week Spent on Social Media Marketing
Urban 1	Yes	2005	3
Urban 2	Yes	2005	3
Urban 3	Yes	2008	3
Urban 4	Yes	2008	2–3
Urban 5	Yes	2007	5–8
Rural 1	Yes, shared	2009	3
Rural 2	Yes, shared	2007	2–3
Rural 3	Yes	2009	5
Rural 4	Yes	2009	2
Rural 5	Yes	2008	2

Although differences exist between rural and urban nightclubs in terms of their social media experience, both groups demonstrate a level of experience over and above the average experience levels suggested by current research, indicating social media marketing may be at a more advanced stage of development than presented in the literature.

All of the urban nightclubs studied have active independent websites which they update regularly and which are linked to their social media pages, while the independent websites of rural nightclubs are relatively inactive and not linked to their social media. In this respect, the activity of the urban nightclubs is reflective of the current marketing literature, which highlights the importance of maintaining an active online presence outside of social media through an independent website. Rural nightclubs, however, do not appear to be using their independent websites to their full potential.

Social Media Trends

Facebook

All of the nightclubs studied have active Facebook accounts and share a positive opinion of Facebook as the most popular and most effective social media website for marketing purposes. This finding confirms the popularity of Facebook as a marketing tool that is suggested in the literature (Pattison, 2009; Miletsky, 2010). All of the consumers who participated in the study are also active Facebook users with the majority of them describing Facebook as the hub of their social media activity.

Twitter

Six out of the ten nightclubs that took part in the research have a presence on Twitter – all five urban nightclubs and one rural nightclub. This finding challenges the popularity of Twitter suggested in the literature by authors such as Morrissey (2010). While the majority of nightclubs have a Twitter presence, their presence on Twitter is relatively low-key in comparison to their Facebook activity. A similar finding was drawn from the focus groups. Only five consumers said they have set up an account on Twitter and subsequently admitted to highly sporadic usage patterns, thus indicating Twitter may not yet be a viable social media channel for nightclubs in the midlands and west of Ireland as usage among consumers appears to be relatively low. Of those consumers who are not active on Twitter, many regarded the website as predominantly an American site. These statements resonate strongly with early attitudes of Irish consumers towards Facebook, which in its infancy was viewed by Irish consumers as an American social network. This finding implies the potential of Twitter as a marketing tool may increase in the near future, as patterns observed from the literature suggest Irish consumers' internet usage tends to closely follow the usage patterns of American consumers (Singh et al., 2010).

YouTube

The potential of YouTube suggested in the literature is reinforced by the favourable attitude of consumers towards YouTube uncovered during the focus group interviews. Consumers regard YouTube as 'amusing', 'entertaining' and 'addictive'. However, none of the nightclubs involved in the study have used YouTube as part of their marketing activities. Many of them were aware of the website's existence and were familiar with the website's features, but had not considered the idea of using it for marketing their nightclub until the topic was raised during the interviews.

SMS Marketing

The intrusiveness of text message marketing was discussed during focus groups and organisational interviews. Consumers relayed stories of negative experiences with invasive mobile marketing from nightclubs and some nightclubs admitted to sending marketing messages via SMS to consumers who had not given their explicit permission. The overall findings from both the organisational interviews and the consumer focus groups present text message marketing as an effective channel for communicating with nightclub consumers provided the nightclub obtains explicit consent from consumers and establishes a straightforward process whereby consumers can easily unsubscribe from the text alerts service.

Bebo

Although little attention was given to Bebo in the literature, both nightclubs and consumers have previously used the website. All of the rural nightclubs and one urban nightclub have used Bebo in the past for marketing their nightclubs and over half of the focus group participants admitted to having used Bebo before, many identifying it as their first social media experience. However, the popularity of the website is in decline. Bebo's decline in popularity is reflective of the rapidly evolving status given to social media in the literature. The current image of Bebo among consumers as a social networking site for children suggests Irish nightclubs should be wary of using Bebo for their marketing purposes, primarily because it is potentially a waste of resources as the target audience no longer uses the website. Furthermore, and more ominously, using Bebo to promote nightclubs may raise serious legal and moral issues regarding the advertising of alcohol-related events to minors. Many of the nightclubs have already identified these pitfalls and have followed in the footsteps of their customers, moving from Bebo to Facebook, yet some nightclubs are continuing to use Bebo to promote their nightclub and alcohol-related events. However, many nightclubs in both rural and urban areas also hold underage, non-alcoholic events on their premises, thus maintaining a presence on Bebo could prove beneficial for these nightclubs when promoting such events to underage consumers.

Social Media Relationships

The suggestion in the literature that strong ties with consumers are essential in order for social media marketing to be effective (Brown et al., 2007) is challenged by the results obtained during the focus groups. The majority of consumer responses gathered for this study were relatively homogeneous; however, the discussion on social media relationships with nightclubs raised much debate. Many consumers said they would only look at a nightclub's social media page if they were going somewhere for a vacation or if they were going to a nightclub they are not familiar with, insisting they are less likely to check the social media page of the nightclubs they most frequent, because they are going to attend those nightclubs regardless of what promotion is on. This consumer opinion suggests social media marketing does not require strong consumer ties in order to be effective and it may also be effective with consumers who have weak or no ties with the nightclub.

On the other hand, some consumers demonstrate much stronger social media ties with their most frequented nightclubs, describing the social media presence of their local nightclub or nightclubs as online membership schemes. The findings from the organisational interviews reinforce this description: four of the nightclubs have membership schemes in place which are linked to their social media activity. In general, focus group participants were largely in favour of nightclub membership schemes. The majority of participants hold in their possession at least one nightclub membership card; in fact, many of the participants are involved in multiple nightclub membership schemes. Low levels of consumer loyalty towards nightclubs are also evident on social media: all of the focus group participants are linked to multiple nightclubs through social media and describe the strength of these links as considerably strong. Consumers are linked to multiple nightclubs on social media in that they are fans or friends of their local nightclub's page, but they have little or no interaction with these nightclubs' pages. They do not view the pages on a regular basis. They are more likely to visit the page of a nightclub that is unfamiliar to them to see what it is like than to visit the page of a nightclub they know, even though they may be friends or fans of the local nightclub on social media. Thus, strong ties with consumers can be potentially advantageous for nightclubs engaging in social media marketing; however they do not guarantee consumer loyalty.

With regards to establishing social media relationships, the potential legal issue of adding underage friends and/or fans arises. Many nightclub representatives said they deliberately avoid Bebo because of its underage user demographic. In spite of the strong awareness of this sensitive issue demonstrated during the Bebo discussion, only four out of the ten nightclubs impose a strict over 18s policy when adding or accepting friends on social media websites. Three more nightclubs adopt a markedly more relaxed approach. They 'try to maintain an over 18s only friend list, when possible', but have no formal procedures or guidelines in place for standardising the process of adding or accepting online friends. The remaining three nightclubs admit to having no age restrictions at all in place on their social media friends lists. This finding suggests the majority of nightclubs demonstrate a preference for quantity over quality when it comes to establishing social media relationships, in an attempt to appear more popular than competitors.

Social Media Activity

Promotional

Advertising the nightclub and promoting events is the primary social media activity identified among the nightclubs studied. However, these activities are often done to excess, at the expense of other important activities. Nightclubs which focus their social media efforts solely on promotions are not viewed favourably by consumers. When discussing their social media usage patterns, focus group participants placed great importance on interaction, reinforcing the findings of previous studies published on the topic of social media consumers (Gibson and Jagger, 2009). The level of attention given to promotional activities by the nightclubs studied indicates they are underperforming in terms of meeting the needs and expectations of their consumers on social media. Many participants relayed anecdotes of negative past experiences where they had contacted nightclubs via social media websites to enquiry about upcoming events, reservations or general queries and experienced negative emotions when they were subsequently ignored by nightclubs which failed to reply to their enquiries.

The danger of price-based promotions was highlighted in the literature by authors such as Cram (1994). Evidence of price wars instigated through social media promotions was obtained during the organisational interviews and the level of promotional activity among nightclubs on social media websites, and Facebook in particular, appears to be dangerously high. One particular rural nightclub posted an advertisement on its Facebook page offering drinks for €2 all weekend. The following week, its closest competitors copied the strategy. For three consecutive weeks, both nightclubs advertised the promotion aggressively on Facebook. After three weeks one of the nightclubs withdrew the offer, but the withdrawal was only temporary. Pressure from angry consumers, who expressed their dissatisfaction on the nightclub's Facebook page, led to the offer being reintroduced. At the time the interviews for this study were conducted, both nightclubs were still advertising the offer through social media.

Timing is a crucial yet often overlooked factor of social media promotions. The literature review highlighted the importance of content and frequency when delivering marketing messages (Cram, 1994); however, the timing of message delivery is not given adequate attention in the literature. Regardless of what promotional activity is being carried out, the findings from the consumer focus groups suggest nightclubs should give strong consideration to the timing of their messages. Both male and female consumers largely agree; evening is the time of day when they are most likely to be online. Focus group participants indicate they only occasionally look at the social media pages of nightclubs by searching for the nightclub's page unprompted; typically consumers arrive on nightclub pages by clicking on links in comments posted by nightclubs, which appear on the stream on their homepage, thus identifying the timing of messages as an crucial factor, as the stream is in real time and therefore constantly changing. Although promotion was identified as the main social media activity of nightclubs, in some cases non-promotional activities were also identified, such as uploading photographs, dealing with booking enquires and conducting informal competitor and customer research.

Non-Promotional

The associated co-creation and the interactive nature of social media marketing highlighted in the literature suggest there is substantial potential for nightclubs to use social media channels for other non-promotional purposes such as consumer research. However, none of the nightclubs are currently engaging in formal or informal consumer research through social media. The reason cited by most nightclubs is because it had never occurred to them to do so, while some of the nightclubs have deliberately avoided engaging in consumer research through social media as they refute the credibility of social media as a formal consumer research channel.

Some nightclubs admitted to using social media channels to engage in competitor analysis, albeit in an informal manner, what one nightclub described as 'keeping an eye on what they're doing down the road'. The potential of social media as a means of conducting competitor analysis was not previously identified in the literature, thus this interesting finding enhances the literature on social media marketing by identifying a new, non-promotional business activity for which social media can be used. One nightclub described how it had previously used its Facebook page to advertise vacancies within the organisation, by inviting interested parties to send their CV to the company through their Facebook mail, to which it received an overwhelming response. One urban male consumer also raised the issue of recruitment during the focus group, explaining how he used Facebook to obtain the contact details of nightclubs and pubs when he was searching for employment. LinkedIn, a business-oriented social media website, is regularly used for recruitment and head hunting; however the literature did not recognise the potential to conduct recruitment activities on social media websites such as Facebook, which are widely regarded as personal networks rather than professional networks.

Managing and Implementing Social Media Marketing Strategies

In general, the discussion of the research findings so far has presented urban nightclubs as slightly more advanced social media users than their rural counterparts. However, unexpectedly, it is the rural nightclub category which excels in terms of the effective management of social media marketing strategies. Three nightclubs, two rural and one urban, acknowledged the management and implementation of their social media marketing strategy as a team effort, with involvement from personnel from all areas of the organisation. The remaining eight nightclubs relied exclusively on one person to design, manage and implement all of their social media marketing strategies. In some cases, this responsibility was carried out by a designated marketing manager; however, in most cases no designated marketing manager role exists and the responsibility of social media management was left to the general manger of the nightclub. Perhaps it is unfeasible in rural nightclubs to employ designated marketing personnel due to budgetary and resource constraints. In such situations, it may be beneficial to involve staff members from other areas of the business instead of placing the responsibility on the general manager, who is often preoccupied with other non-marketing-related issues. The rural nightclubs that took part in the study and have already employed such an approach have experienced more successful social media strategies as a result. With regards to employing a dedicated marketing manager, while this strategy is considerably more beneficial than relying solely on the general manager, it still appears to be beneficial to encourage input from other organisational departments, outside of the marketing department, to obtain a fuller picture and maintain a fresh perspective.

Measuring Social Media Marketing Strategies

The difficulty in measuring social media marketing campaigns highlighted in the literature (Maddox, 2009) is echoed in the responses from nightclubs. None of the nightclubs involved in this research have established a formal, quantitative measure for evaluating the return on their social media marketing efforts. Some nightclubs measure their social media success by monitoring the level of activity on their social media webpages, while others list informal feedback from customers who attend their events as a key performance indicator. Some nightclubs, particularly the urban clubs, have previously attempted to quantify the effectiveness of their social media activity by measuring attendance of events promoted exclusively through social media and comparing these results to attendance figures for events not advertised through social media, some noting an increase as high as 50 per cent for events marketed through social media. Thus, while some nightclubs have been relatively successful at measuring the effectiveness of promoting once-off events on social media, none of them have yet established a method for measuring the long-term effectiveness of their ongoing social media activity.

While all of the nightclubs acknowledged the difficulty of measuring their social media campaigns, none of them expressed a major concern regarding the immeasurability of social media. The general consensus among nightclub representatives is that it costs nothing to implement a social media marketing strategy so they have nothing to lose. However, the potential for negative word-of-mouth suggests nightclubs should maintain some measure of social media success, whether informal or formal, in order to avoid a negative return on investment. The term 'return on investment' is appropriately used here as all the nightclubs have invested time, usually three hours per week, into their social media strategy. However, none of the nightclubs recognise the time spent on their social media strategies as an investment. All of them declare they have made no investment in social media because they have not spent any money on it. This attitude suggests they do not take social media too seriously and are not considering the long-term, strategic impact of their social media use.

CONCLUSION

The compatibility between nightclubs and social media is considerably high owing to two key factors: 1) shared goals and consumer base, and 2) flexibility. Nightclubs and social media are inherently suppliers of entertainment with remarkably similar target consumers. Furthermore, the level of experience nightclub marketers have with social media is increasing. In terms of flexibility, both consumers and nightclub representatives change their social media consumption habits regularly. This evolving nature of social media usage patterns is well documented in the literature (Andersen, 2008). The flexibility demonstrated by the nightclubs which moved from Bebo to Facebook suggests nightclubs are to some extent meeting the current needs and expectations of consumers and suggests they have the capacity to adapt to meet consumer needs. The combination of these factors indicates a potential strategic fit between nightclubs and social media.

The use of social media among most nightclubs studied can be described as mundane and uninspiring. The lack of creativity is particularly notable in two key areas: choice of social media channels and social media activities.

Choice of Channel

Facebook and SMS messages are the channels used most frequently by nightclubs engaging in social media. While these channels are successful at reaching their target customers, both channels are saturated with messages from nightclubs and other organisations. In order for nightclubs to increase the effectiveness of their social media marketing and obtain a competitive advantage they need to expand their portfolio of social media channels by establishing an active presence on more innovative social media channels such as Twitter and YouTube, which are rising in popularity among marketers and consumers.

Social Media Activity

Most of the nightclubs have adopted a relatively narrow approach to social media marketing. Social media by its nature is an interactive channel, readily facilitating direct marketing and dialogue between multiple parties. It appears many nightclubs in the midlands and west of Ireland have not yet grasped the concept of marketing 'with' consumers rather than 'at' them. They use their social media presence mainly to promote their nightclub and their events. They do not actively encourage feedback from consumers and when feedback or other unsolicited communications, such as enquiries, are received from consumers via social media they are often ignored or overlooked by nightclubs.

The current literature on social media marketing also places considerable emphasis on promotions; however, the approach to social media promotions suggested in the literature is a more personal and informal approach than that taken by the nightclubs (Gibson and Jagger, 2009). In this respect, the traditional approach taken by nightclubs is not reflective of social media marketing literature and is more reminiscent of dated, mass marketing literature. Essentially, nightclubs are trying to use modern marketing tools, such as social media, in the same way as they would use traditional marketing channels, such as radio or local press. By adopting this obsolete approach they are limiting their ability to meet the needs of their consumers within their social media networks, as they are not providing consumers with entertainment or the opportunity to interact. Nightclubs are lazily approaching social media as primarily an advertising tool and not realising the full potential of it as a creative, interactive channel.

Most of the nightclubs are underperforming in terms their level of forward planning and their attention to detail. The majority of nightclubs appear to devote less attention to their social media strategies compared to their other marketing strategies. A small number of nightclubs have correctly identified social media marketing as requiring a team effort and have been successful at obtaining buy-in from management and staff at various levels from within the organisation. In this respect, these nightclubs reflect the best practice techniques suggested in the literature. The remaining nightclubs have achieved buy-in from management, but have not delegated any social media related tasks to non-management members of the organisation, resulting in their social media strategies being narrow-minded and minimal in terms of planning and implementation. Those nightclubs which involve members from throughout their organisation in their social media marketing activity have better planned strategies which are generally more creative. For this reason, these nightclubs tend to perform better in terms of meeting customer expectations than those where one person is solely responsible for the design and implementation of their social media marketing activity. This finding suggests preparation is a pre-requisite for effective social media marketing.

The findings on age restrictions strengthen the argument for the need for prior planning. Many of the nightclubs do not impose strict age restrictions on their social media pages, risking the possibility of legal issues arising. One of the factors contributing to the laidback approach of most nightclubs towards social media may be the lack of financial investment required. There appears to be a misguided attitude among nightclub representatives suggesting social media is an informal channel and, thus, it is acceptable to adopt an informal approach. A clear line needs to be drawn between being open and informal, and acting in a socially unacceptable manner. Companies need to engage in prior planning in order to ensure they strike a balance between being socially oriented and maintaining integrity and professionalism.

Theoretical Implications

The findings of this study add to the debate on the importance of relationships and tie strength in social media marketing literature, by strengthening the argument which suggests close relationships are not always a requirement, and social media marketing can also be effective in situations where weak ties or no ties exist. This research also helps to move current literature past focusing predominantly on promotional activity, by presenting consumer research, competitor research and recruitment as business activities which may be potentially carried out through social media. The overall conclusion of this research reinforces the argument in current literature which insists innovative tools such as social media require innovative attitudes, and in order for social media marketing to be effective marketers must enter the social media world with an open mind.

Limitations and Implications for Future Research

This study presents a cross-sectional account of the current use of social media marketing by nightclubs in the midlands and west of Ireland by interviewing nightclub marketing personnel and nightclub patrons from within the region. Future investigations in this area may involve the use of deeper qualitative data collection methods such as participant observation to investigate whether the responses provided during the interview accurately represent the actual behaviour of nightclubs and consumers. The focus group section of this research was also limited to consumers who have an established, active presence on social media. Further nightclub marketing research may also include participants who do not have a presence on social media. Other research may build on this work by taking a longitudinal approach, repeating this study and examining the extent to which the use of social media among nightclubs and consumers has changed over time.

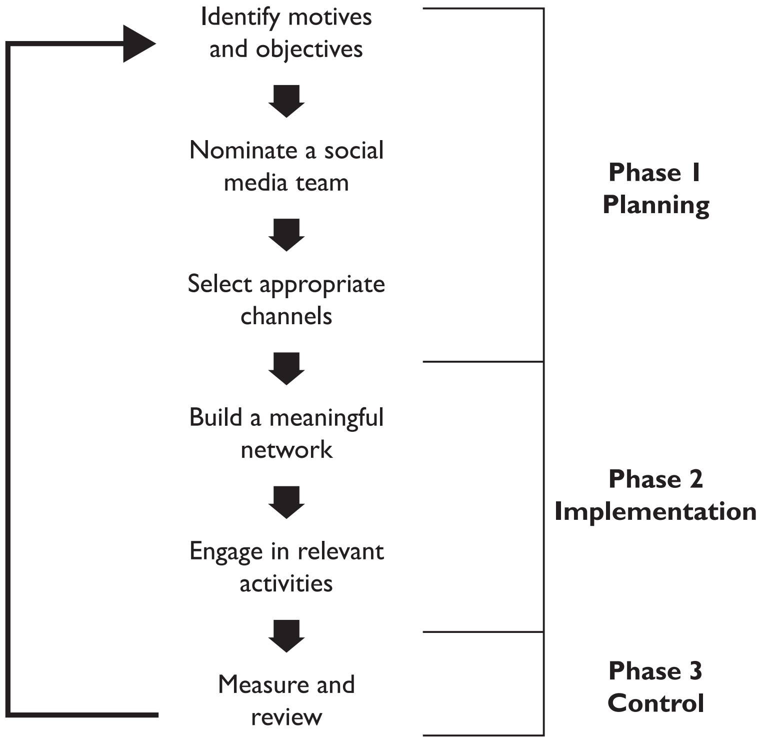
Practical Implications

The implications of this research from a managerial perspective are presented in the form of a conceptual framework, which was created based on the main findings emerging from the research (see Figure 1).

Planning Recommendations

Nightclubs should create a formal, written plan for their social media marketing strategy, which should start by identifying their objective. It is recommended that nightclubs avoid objectives based solely on cost reductions or promotions. In order to be effective, the objectives should be compatible with the *social* aspect of social media, for example a desire to engage with customers or to better understand their customers' needs. In order to identify suitable social media objectives it is also necessary to understand the social media motives of their target audience, such as entertainment. If no suitable objectives can be identified, it may indicate social media may not be an appropriate marketing channel for meeting the nightclub's objectives.

Figure 1: Conceptual Framework for Social Media Marketing in Nightclub Organisations



A social media marketing team should subsequently be appointed with representatives from various levels and departments within the organisation. Once organisational objectives and consumer motives have been identified, the elected social media marketing team will be able to make an informed decision about the most suitable social media channels. Decisions should be based on the social media usage of the nightclub's target audience and the ability of the channels to meet its objectives. Although this study focused on the five most relevant social media methods at the time of study, the choice of social media channel should not be limited to these channels as trends in social media are constantly evolving and new social media channels are continually emerging. Nightclubs should aim to include as many social media channels as they can feasibly manage and maintain within their resources.

Implementation Recommendations

When the most appropriate social media channels have been identified, nightclubs should begin to build their networks. Formal guidelines should be established, outlining how the network is to be built and details of any restrictions should be clearly communicated to all members of the social media team to maintain consistency. Given the nature of the industry, it is recommended that nightclubs impose strict age restrictions on any social media channels used to avoid any legal issues arising. Nightclubs should maintain an active presence on all their social media channels and establish links between their social media and all other channels of communication. For example, hyperlinks should be used to direct consumers from the company website to the social media pages and the URLs of their social media pages should feature prominently in any offline communications.

A subtle, informal approach should be adapted when engaging in promotional activity on social media, paying careful attention to the wording of communications. Postings resembling advertisements should be used sparingly. Nightclubs should also aim to increase the effectiveness of their social media marketing campaigns by engaging in non-promotional activities, such as consumer and competitor research and recruitment. Interaction and dialogue should be key components of any social media activity and communications received from customers via social media should be handled in a professional, timely manner.

Recommendations for Control

Nightclubs should establish a formal strategy for measuring the success of their social media marketing. As quantifying social media marketing success is extremely difficult, the formal measurement strategy may be based on qualitative measures such as customer feedback. The choice of measurement method should be based on the type of activity and thus will vary greatly from nightclub to nightclub. A more important factor than the type of measure used is the frequency of measurements. Regardless of which methods are used, the measurement should be carried out on a regular basis. The dynamic nature of social media means the social media strategies of nightclubs will require constant review and reinvention, thus the six-step process outlined in Figure 1 is a cyclical process that nightclub marketers need to repeat continually.

Adapting a formal strategy, such as the one suggested in the above model, will allow nightclubs to create effective and innovative social media marketing strategies which allow them to meet their consumers' need for social interaction, information and entertainment while keeping marketing costs to a minimum and ensuring the professional image of the nightclub remains intact.

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The Semiotic Conception of Brand and the Traditional Marketing View

FERNANDO PINTO SANTOS*

ABSTRACT

The purpose of this article is to further develop the use of the semiotic resources in the field of brand management by exploring some key traditional marketing concepts against the backdrop of the semiotic theory of representation. Within the broad field of semiotics my option was for Charles Peirce's General Theory of Signs. By transposing his semiotic theory to the conceptualisation of brands I illustrate their dynamic nature and how they generate representations. With the help of this article, brand managers are able to obtain a holistic view about brands that encompass their signs and the perceptions that these create. Also, managers can gain an understanding concerning how the meaning of brands always results from co-creation between companies and stakeholders.

Key Words: Brands; semiotics; signs; marketing; meanings

INTRODUCTION

Brands can be regarded as mental constructions that evoke a wide array of meanings (Danesi, 2006; Semprini, 1995). Likewise, one can envisage the consumer world as a web of meanings among consumers and marketers woven from signs ensconced in their culture (Mick, 1986). These perspectives lead us towards semiotics, the discipline that studies signs and how one creates and transmits meanings (Eco, 1979).

A semiotic sign might be defined, in a simple way, as anything that represents something to someone (Peirce, 1893–1913). Within the broad semiotic field I will develop my research by using the resources made available by the American philosopher Charles Sanders Peirce. His General Theory of Signs is, most of all, a theory of knowledge (Santaella, 2000) and proposes a view of how human beings develop representations. Ultimately, a brand is something that resides in the minds of consumers (Keller, 1998) and this perceptual presence can be regarded as a mental representation (Franzen and Bouwman, 2001).

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I am following a call for research to deepen the use of the semiotic theory into the marketing and brand management domains. The purpose of this article is to establish a bridge between the semiotic theory and the marketing brand management domains, by exploring some traditional marketing concepts and placing them against the backdrop of Peirce's theory of representation. The originality of the research lies in the discussion of a semiotic view of brand with more traditional marketing concepts. Also, the concise way I will present the semiotic theory contributes to the originality of the approach, especially given that most of the existing work that integrates semiotics and marketing ends with little appeal to those who are not experts in the field (Mick, 1986).

To the extent of my knowledge there are no works that clearly relate core brand marketing concepts – like the ones of identity, communication, positioning and image – to Peirce's semiotic theory of representation. This was the gap I identified and, therefore, it is my belief that my approach is valuable since it adds new insights that brand managers can use to enrich their management practices. Mick et al. (2004) argue that more efforts to qualify and extend semiotic insights into the marketing domain are needed, and Thellefsen et al. (2007) state that very little work seems to exist that conceptualises brands according to a Peircean perspective. Semiotics may help managers to achieve a broad view about brands, and help them in the formulation of a marketing strategy and in the understanding of the processes that lead to the meanings consumers ascribe to brands (Holbrook and Hirschman, 1993).

APPROACH

The present research is exploratory and I will develop a discussion about a semiotic view of the brand phenomenon within a marketing framework. I will focus my study on the marketing concepts of identity, image, positioning and communication. The identity and image concepts seem to be generally accepted as crucial in the brand management domain (e.g. Aaker, 1991; Keller, 1998; Kapferer, 1994). Besides these two concepts, Kapferer (1994) highlights the communication and Aaker (1991) the positioning of a brand. More concepts could be presented but, due to the size constraints of the article, I decided to focus on these four key ones. I will begin the analysis of the literature by concisely presenting these marketing concepts and then I will explore the semiotic theory. Instead of extensively presenting the history of semiotics or delving into the complexities that can be derived from different paths of research within this broad field, I will focus on Peirce's theory of representation. Nevertheless, I will briefly present an overview of the origins of semiotics and of the two main paths that have led to what is called 'modern semiotics', justifying my emphasis on Peirce's theories. From the integration of the fields of marketing and semiotics I will develop a discussion about a view of brands as semiotic entities. I will end this article with a section of practical implications and also with suggestions of avenues for future research.

RELATED LITERATURE

Traditional Marketing Concepts of Brand Management

Identitiy

The concept of identity emerges as a pivotal element in brand management (Aaker, 1991, 2002; Kapferer, 1994, 2003; Keller, 1998). Brand identity defines a brand's sense of direction, which is central to a strategic vision (Aaker, 2002).

The brand identity will clearly be defined as soon as the following issues have been resolved: what are the vision and specific objectives of the brand; what sets it apart; what is the need that is satisfied by the brand; what is its permanent nature; what are its values; and what are the signs that make it noticeable (Kapferer, 2003). We should form a perspective on the concept of identity in a comprehensive fashion. Besides the identifying elements (name, logotypes and other graphical elements) through which a brand can be identified, the identity also includes the total of its tangible and intangible features (Mozota, 2003). The identity mix of a brand can be defined according to four vectors: products/services, environments (locations where the offer/services are produced or sold), communication and behaviour (of the employees) (Olins, 2005).

Image

Brand image may be defined as how the identity materialises in the mind of different audiences. Neurobiologists have concluded that the best way to imagine the human memory is like an associative network, wherein everything is connected to everything else (Franzen and Bouwman, 2001). Memory is formed by millions of networks of neurons, whose functioning may be explained through theoretical models regarding cognitive processes (Franzen and Bouwman, 2001). These models are based upon the fact that representations in the long-term memory are organised in complex and interconnected terms called models of associative network. How they work can be understood through the theory of spreading activation, formulated by Quillian (Collins and Loftus, 1975). When the senses face a certain stimulus, a connection is activated in the brain, namely in groups of specific neurons that represent that stimulus in the memory.

The knowledge regarding a brand can be conceptualised as consistent with the model of an associative memory network (Keller, 1998) and it may be defined as the personal meanings about a brand stored in a consumer's memory, that is, all descriptive and evaluative brand-related information (Keller, 2003). The knowledge about the brand can be characterised along two components: brand awareness and brand image (Keller, 1998). Awareness is related to the strength of the node of the brand in the memory, as reflected by the ability of consumers to identify the brand under different conditions. Brand image can be defined as the perceptions about a brand that result from the brand associations held in the memory (Keller, 1998). Thus, the image of a brand is composed of all the pieces of information that consumers gather in their memory.

Positioning
Determining a brand image involves positioning the brand (Keller, 1998). As the name implies, positioning involves finding a suitable location in the minds of a certain target segment, according to the strategy of the brand. The first step in the implementation of a brand identity is the affirmation of a positioning that specifies what part of the identity is to be communicated (Aaker, 2002). Positioning a brand also means to highlight the distinguishing features that set it aside from its competitors and make it appealing to the public (Kapferer, 2003). Positioning can be seen as something sought out and attained: it is the result that the company looks forward to obtaining in the mind of the consumer. In this sense, ultimately the consumers are those who will determine the positioning of the brands (Beckwith, 2002).

Communication
Marketing communication can be conceptualised in terms of 'contacts', like any information-bearing experience that the public has towards a brand (Schultz et al., 1993). Within the same perspective, one can consider that all 'touch points' between a brand and its consumers are message bearers (Katz, 1989). Any situation where a brand is communicating something to the market, from its facilities to how the after-sale service works, is a touch point of the brand. In the same line of thought, the design of a product and its price, the packaging, the posture of the seller and the decoration of the point of sale, among many other possible examples, communicate something to the buyers (Kotler and Keller, 2006). Each contact gives an impression of the brand.

Semiotics
The word 'semiotics' originally stems from the term 'semeiotics', arising from the Greek 'semeion', which meant 'mark' or 'sign' (Beasley et al., 2000). The term was used by the founder of Western medicine, Hippocrates, to point out the study of the symptoms, given that they were signs that represented different kinds of physical conditions (Danesi, 1998). The semiotic analysis generally consists of the same procedure: to link the physical forms of the signs to what these represent (Danesi, 1998).

At the end of nineteenth century and throughout the twentieth century, semiotics had a noticeable development, through the works of Peirce and Saussure. The Swiss linguist Saussure created the theoretical fundamentals of a science of signs. To him, semiotics was an extension of linguistics. A sign, linguistic or otherwise, can be regarded as a dyadic relation between a signifier (form, expression) and a signified (concept, content) (Holbrook and Hirschman, 1993). So, a sign is the relation between the signifier and signified. Saussure's works focus on communication via symbols organised into languages, e.g. food, clothing, furniture, myths and rituals (Holbrook and Hirschman, 1993).

Peirce establishes a semiotic triadic relationship, where a third element – the object – is articulated with the signifier and the signified. Although Saussure and Peirce worked in two different academic traditions (linguistics and philosophy respectively), both agreed on the importance of the sign to any semiotic approach (Fiske, 1990). Saussure used the term 'semiology' to designate his studies; however, despite still being used today, the word 'semiotics' became more usual. In spite of the shared purposes of both semiotics and semiology to become general theories of signs, the two theories differ in subject matter and method as well as in specific concepts and also in terms of epistemology (Holbrook and Hirschman, 1993).

Among the existing research that integrates the semiotic theory into the marketing field, there have also been a number of different approaches. Whereas some authors use the semiotic theory of Saussure or Peirce, others use a mix of the two when developing research in marketing. Mick's (1986) article 'Consumer Research and Semiotics: Exploring the Morphology of Signs, Symbols, and Significance' and Holbrook and Hirschman's (1993) book *The Semiotics of Consumption* are two works that have influenced the use of semiotics in marketing theory. But even in the 1950s the seminal articles of Gardner and Levy (1955) and Levy (1959) presented insights that remain up-to-date and influential. Levy (1959) argued that the marketing mix variables place a firm's commercial offering within symbolic meanings that produce a complex set of 'symbols for sale'.

Different semiotic research paths have been followed in the marketing and consumption domains, such as brand and corporate communication (Danesi, 2002, 2006); signs used as brands (Floch, 2001); consumption (Baudrillard, 1998, 2005; Barthes, 1964; Mick, 1986; Holbrook et al., 1989; McCracken, 1990, 2005); symbolism in consumption (Barthes, 1964, 1993); corporate identity (Otubanjo and Melewar, 2007; Valentine, 2003); and consumer behaviour (Cherrier and Murray, 2004; Grayson and Martinec, 2004; Grayson and Shulman, 2000). Also, brand meaning has been extensively studied with different approaches (Batey, 2008; Hardy-Vallee and Koenig, 2002; Kozinets, 2001; Schouten and McAlexander, 1995) and different methods of analysis inspired by the semiotic theory have been developed and used in marketing research (Valentine, 2002; Bitoun, 2006; Kessous and Elyette, 2008). Just to give two examples of these methods, Barthes (1964) presented a semiotic process based on Saussure's semiotic theory. The three stages refer to denotation, connotation and myth. On other hand, Chandler (2007) proposed a semiotic method to analyse how signs, such as the identity of companies, are interpreted to produce meanings. Other works have used semiotic approaches to specifically study, for example, product design (Kawama, 1989), packaging (Klapisch, 1995), advertising (Barthes, 1964; Langrehr and Caywood, 1995; Warlaumont, 1998; Danesi, 2008) and retail spaces (Sherry, 1998; Eco, 1979; Floch, 2001). Many other studies, besides the ones stated, have employed some kind of approach based on the semiotic theory into research in marketing and brands. A broad panorama on this matter can be analysed in the Mick et al. (2004) article 'Pursuing the Meaning of Meaning in the Commercial World: An International Review of Marketing and Consumer Research Founded on Semiotics'. This work presents an extensive analysis of the existing research that integrates semiotics in the marketing field.

My review of semiotics is not meant to be holistic but rather an exploration of some of the key elements of semiotic theory in order to discuss the parallel with the concepts of identity, communication, positioning and image. Within the broad semiotic theoretical domain I will opt for Charles Peirce's semiotic General Theory of Signs for my research, mainly due to three reasons. Firstly, Peirce's theory seems to be better adjusted to the potential analysis of brands through the incorporation of the mediated action (semiosis), when compared to the Saussurean dyadic (signifier/signified) semiotics (Perez, 2007). Secondly, the theory of representation proposed by the Peircean semiotics presents the resources to understand how brands become represented in the minds of stakeholders. Finally, the already existing conceptualisation of brands with this semiotic view (Mollerup, 1997; Perez, 2004; Lencastre and Côrte-Real, 2010) seems to allow a comprehensive notion of the brand concept and a holistic characterisation that encompasses its signs and their effects.

General Theory of Signs

As a philosopher, Peirce concerned himself with the understanding that we have of our experience and the surrounding world. Only gradually did he realise the importance that semiotics – the action of signifying – has within such context (Fiske, 1990). Peirce was born in Cambridge, Massachusetts, attended Harvard University and became a professor in logic and philosophy at the same university. As Peirce (1931–1958: 1.339) proposes in his General Theory of Signs:

> A sign stands *for* something *to* the idea which it produces, or modifies …. That for which it stands is called its *object*; that which it conveys, its *meaning*; and the idea to which it gives rise, its *interpretant* [emphasis in original].

This relation between signs, object and interpretant conceptualise the process of representation and how human beings accede to the knowledge about a given reality (Silverman, 1983).

The semiotic object or referent (we will use these terms interchangeably) which the sign stands for doesn't have to be physical; in fact it can be intangible, real or imaginary, shared or even idiosyncratic (Holbrook and Hirschman, 1993). Through signs an interpretant can be developed. Peirce thought of an interpretant as a psychological event in the mind of an interpreter (Eco, 1979). For some authors (e.g. Danesi, 1998, 2002, 2008; Merrell, 2001; Mick, 1986) the interpretant is essentially a meaning about the object that is accomplished through signs. Other authors, like Eco (1979), state that the interpretant can be a response to the semiotic object.

I consider the understanding of how signs lead to the development of a response as something critical. Signs have a self-generating ability (Santaella, 2000) in the sense that they bear a potential effect about the semiotic object. Nonetheless, a response will only be created when the effect of the sign is integrated in the mental structures of the person who processes it. Hence, the meaning or response is not contained within the sign itself, arising only in its interpretation (Chandler, 2007). Peirce's semiotics allows the understanding that the meaning or knowledge carried by the signs is not universal and the processes that lead to a response are conditioned by the lifestyle, way of thinking, values and opinions and the pre-existing ideas, tastes, life projects and all idiosyncrasies that make up each person's sense of self (Fournier and Mick, 1999; Semprini, 1995). The interpretation is thus conditioned by the already existing knowledge and personal background and also by the specific social, cultural and historical contexts.

Peirce defended the idea that we have no direct experience, but merely an indirect knowledge of reality (Silverman, 1983). The philosopher argued that all experience is mediated by signs (Chandler, 2007). From a semiotic view the whole of the human experience is an interpretative structure mediated and sustained by signs (Deely, 1990). Semioticians regard 'reality' as a social construction, based on systems of signs.

Representation, in the formal terms of Peirce's theory, is the general relationship that is established between the three semiotic elements: sign, object and interpretant. A representation relationship is triadic, so it should not be confused with the signs themselves, although the whole process of representation can be named as a sign (Santaella, 2000). At the same time a sign – a sign in the strict sense or a *representamen* – is one of the elements that are part of the process of representation. So, and with the purpose of presenting Peirce's theory in a simple way for those who are not familiar with semiotic concepts, we will use the term 'sign' as the concept in the strict sense.

In his extensive work Peirce developed multiple classifications and reviews about the types of signs and their qualifications, but we believe that such detail is outside the scope of this study. The qualifications of signs in relation to the object – icon, index and symbol – are among the most widespread. The main feature of icons, indexes and symbols is based on their resemblance, contiguity and convention with the object, respectively. An icon is a sign that resembles, in some way, the object. In the index there is a connection between the sign and the object and, finally, a symbol doesn't have a connection or similarity with the object, the relationship happens by social convention. Within Peirce's theoretical frame a symbol is just one of the classifications of signs. We will not analyse the symbolic character of brands, nor will we present a detailed description of the possible classifications of signs, but rather simply use a broad concept of the sign as an element of Peirce's process of representation.

Representations can be partially implicit (Franzen and Bouwman, 2001) and human beings interpret things as signs mostly in an unconscious way (Chandler, 2007). Semiotics thus proposes that meanings or responses can be developed without awareness.

The General Theory of Signs Applied to the Brand Conceptualisation

The semiotic school of thought established by Peirce can be used to conceptualise a brand. Mollerup (1997) was, as far as we know, the first to specifically apply Peirce's semiotic model to the definition of brands. He presented such views in his book *Marks of Excellence* (Mollerup, 1997), where he gives the example of a pen of the brand Montblanc. The symbol on the top of the pen can be considered a sign of the brand; the sign refers to the semiotic object of the brand, the company that produces it. Finally, the interpretant is the effect that the sign can create in the mind.

Regarding the brand's signs, Lencastre and Côrte-Real (2010) argue that the name of the brand is, by legal definition, a sign. Besides this sign, other elements like the logotype, the symbols, the slogans and even the packages and the jingles can also be considered as being composed of signs. Lencastre and Côrte-Real (2010) call these elements an identity mix of the brand.

The products or services and the organisation that manages the brand are, in the opinion of Lencastre and Côrte-Real (2010), the semiotic object of the brand. Perez (2004) considers that the object element takes into account all the complexity of the organisation – its mission, its vision, its relationship with society, its leaders – amplifying the immediate course of reference reduced to the tangible product.

Regarding the effects of the semiotic signs of the brands, Lencastre and Côrte-Real (2010) use the term 'response' as the way to name them. So, the interpretant is the response that a brand receives from a specific individual and, by extension, from a particular market. The authors clarify that the response comprehends the sum of different cognitive, affective and behavioural responses. Franzen and Bouwman (2001) state that a response to a brand refers to the totality of associations, meanings, emotions, attitudes and behavioural tendencies that a brand evokes.

DISCUSSION

Peirce's semiotic theory allows one to regard brands as entities composed of interdependent elements of different natures that match the process of representation. Within this frame a sign is a core concept and has two basic features: it stands for a referent and it has the ability to create an effect in the mind. Consumers live surrounded by signs of brands and all these can be apprehended by the stakeholders' senses at any given moment. Signs establish a connection between the brand they stand for and the stakeholder's mind. Whenever an interpretation of signs occurs new relations are established and brands are thus dynamic entities that are always able to evolve.

Communication may be seen as a process of sign sending (Bergman, 2009) and in this sense the communication of a brand can be regarded as being composed of layers of signs. The identity of a brand encompasses not only the means of communication of a brand and identifying elements such as the logotype and other graphical elements, but also the total of its tangible and intangible features, namely its products and services, its environments and the behaviours of its employees. The identity is composed by signs that stand for the brand and have the ability to trigger responses in consumers' minds about that brand. The act of consumption of a product is also a situation that stands for the brand and thus generates signs about it. So, all the elements that compose the identity of a brand can be regarded as signs. Nonetheless, there are also semiotic signs in situations that are not conceived and controlled by the brand managers as the identity of a brand. When a consumer wears clothes of a given brand he is generating signs about that brand whenever he walks down the street and has contact with other consumers. The use that consumers put the products of a brand to is an example of a situation that can generate signs and thus stand for the brand.

I propose that any situation that generates signs can be regarded as having some referential nature. I thus suggest that besides the products and services, the company and its marketing activities, the semiotic object of a brand may be any physical situation that represents it and has the ability to generate signs. The three kinds of elements that compose the process of representation don't have a fixed semiotic definition. Something can be a semiotic object in one moment and become a sign in another context or situation (Santaella, 2000). I believe that this view can be transposed to regard brands. Referents and signs of a brand have a close nature. A catalogue of a brand is a means of communication and can be regarded as being a referent of a brand, but at the same time one can envisage the catalogue as belonging to the identity of the brand, by presenting layers of signs that consumers can use.

Although Lencastre and Côrte-Real (2010) suggest that the semiotic response to a brand comprehends different cognitive, affective and behavioural responses, I believe it is important to clarify this matter. I propose that the interpretant is essentially a response, perceptual and possibly behavioural, that is created through the mix of the potential effects of signs with an interpretative act. In my view a response to the signs of a brand begins by being perceptual and can remain just perceptual – similar to what happens with many of the brands one knows. When a behavioural response happens it results from the perceptual processing of information. The marketing concept of the image of a brand can be regarded as being similar to a semiotic view of perceptual responses to signs. Consumers develop responses to a brand through its signs. This perceptual response is subjected to continuous updates. The concept of semiotic response, just like the one of image, synthesises the end part of the process of representation. In a simple way both concepts encompass all the information that consumers gather about a brand.

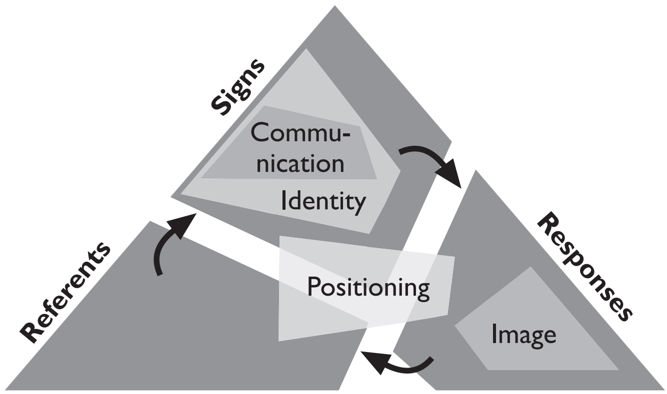
I propose that behavioural responses of consumers have the ability to impact the referents of a brand, namely the sale and use of its products and services. Hence, one can regard the relationship between the referents, signs and responses as truly dynamic with the different elements impacting each other in a cyclical manner. The perceptual responses created through signs about the referents can impact those or other referents and thus continuously influence new processes of representation.

Regarding the positioning of a brand I consider that it is defined by the brand's referents and by the different responses of the consumers. One can envisage positioning as a concept that bridges the company and the market and that is related to the three semiotic elements. Its essence can be seen as nearer to the semiotic concept of interpretant or to the concept of object, but also as an element that is located between both, being also present in the identity and signs of a brand.

From the perspective that brands are defined by a set of relationships between different kinds of elements that are transposed from the semiotic process of representation, I have developed Figure 1. The purpose of the figure is to illustrate the parallel between a semiotic view of brands and what I call traditional marketing concepts.

Figure 1 frames the marketing concepts of communication, identity, image and positioning against the backdrop of the semiotic process of representation. The consumers' responses continuously result from processes of interpretation of the brand's signs. This response can sustain the consumers' behaviours, namely towards the product and services, and thus impact the referents of a brand. With the arrows in the figure I am trying to

Figure 1: Parallels between a Semiotic View of Brands and Traditional Marketing Concepts



illustrate how this dynamic nature of the different semiotic elements upon a brand can be envisaged. The semiotic signs of brands encompass the communication generated in the company and, in a broader way, its identity. Signs stand for the physical manifestations of a brand – its referents – and have the power to create responses. These perceptual and behavioural responses enfold the marketing concept of image. In turn the positioning is defined by the three semiotic elements. I thus propose that a semiotic view of brands can accommodate the marketing concepts of communication, identity, image and positioning.

CONCLUSIONS

Brands are present in the markets not only with their products and services but also with a myriad of signs that mediate their physical reality and the perceptual spaces of consumers. Their semiotic nature is evident in the ability to continuously generate meanings through signs. The use of Peirce's semiotic theory to conceptualise brands allows not only a broad view about how consumers are influenced by the brands' signs but also illustrates their dynamic nature. A brand is thus defined by a net of signs and physical and perceptual elements that compose permanent processes of representation. One can match this semiotic view with the analysed marketing concepts and envisage the identity of a brand and its communication as presenting signs that continuously generate and update the image consumers develop about that brand. This article shows that a semiotic view about brands may be analysed as essentially similar to the presented marketing concepts of identity, communication, image and positioning. This fact does not diminish the relevance of the use of semiotics in the research of brands but, on the contrary, it adds interest and sustains the field of work for the researchers who integrate these domains.

Practical Implications

Semiotic theory allows us to regard brands as a complex and dynamic network of elements. How these different elements are interdependent and compose representations is an important view for brand management practice. Peirce's works provide the resources to understand how brands become represented in the minds of consumers and thus gain a perceptual existence. A semiotic approach also illustrates the dynamic nature of brands and how their signs are able to continuously influence consumers in never-ending processes of representation. With a semiotic approach managers can obtain a holistic view of how brands are entities endowed with signs that continuously spread in the markets and have the power to create meanings and responses.

The semiotic characterisation of a response as the result of the mix of potential meanings of signs with personal interpretative acts is also a core perspective that managers should take into account. The signs generated in the company will be subject to personal interpretations and that's why different consumers can develop different responses to the same stimuli. Managers can thus understand that they don't determine the meaning of brands but rather can only try to co-create it through the signs they generate. Also, there are signs that are generated outside the company's scope of action which nevertheless have the power to influence consumers. Hence, it is from the wholeness of the signs of brands and by the multiple personal interpretations that the meaning of brands is continuously defined.

Managers should be permanently focused on the consumers' use of the signs of their brands. They should try to generate signs that efficiently impact consumers' perceptions and analyse which other signs are influencing them. This task requires a permanent devotion to the understanding of what is happening in the market. Only with this posture will managers be able to influence in the best way the processes of representation in order to accomplish the objectives defined for the brand.

Limitations and Future Research

The main limitation of this article lies in the fact that it was developed on an exclusively theoretical frame. Within the broad field of semiotics, as previously explained, only the path established by Charles Peirce was analysed and this was done in very general terms, addressing some main concepts in order to clearly present them.

I suggest the further development of the line of comparison between semiotic theory and the brand management field. This path of research will allow us to bring these theoretical fields together and create views that can be useful not only to the marketing theory but also to the practice of brand management.

Studying how brands are able to continuously generate processes of representation is an avenue of research that I consider full of potential. Also, the features of the action of signs of brands and the possible unconscious, personal and context-dependent use are aspects that I deem important to analyse. How previous consumer knowledge affects the creation of the meanings of brands is an important path of research as well. Finally, the study of the nature of the possible gaps between the meanings that managers intend to create for their brands and the ones that consumers, in fact, ascribe to them is another path of research that is relevant.

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Book Review on Leader Development

An Integrative Approach to Leader Development:
Connecting Adult Development, Identity, and Expertise
David Day, Michelle M. Harrison and Stanley M. Halpin
New York: Routledge, 2009

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Steven Kilroy*

> 'Without theory, there is no touchstone for making informed, scientifically grounded decisions … for advancing leader development in an informed and systematic manner'
>
> Day, Harrison and Halpin (2009: xii)

The above quote delineates the central objective of Day, Harrison and Halpin's (2009) contribution to the leader development literature. The authors acknowledge that there is no shortage of leadership theories as well as practices which seek to develop leadership. Instead their hostility lies with the fact that scant research attention has been devoted to actually developing a theory of leader development. Despite over a century of leadership research, one central question still lingering is how do leaders and leadership develop? A number of eminent leadership scholars have acknowledged the lack of attention dedicated to answering this question from a theoretical perspective (e.g. Avolio, 2007; Day, 2000; Riggio and Mumford, 2011). Adopting more theoretically based approaches to test how leader development occurs can only help to build a better science and practice of leader development (Riggio and Mumford, 2011). Indeed this is what Day, Harrison and Halpin (2009) seek to do in their cutting-edge book, where they propose an integrative approach to leader development, one with rich and diverse theoretical foundations.

The authors make a case for the need to integrate sound theory into the study of leader development by highlighting its intertwined nature with practice. For example, the authors point out that decision making will be ill-informed if leader development is void of scientific consideration. Their logic is that without adequate theory to explain leader development, important practical decisions and potential returns on investment will be hampered. On the academic front, the authors argue that without theory there will be no framework for

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advancing leader development research in an informed and systematic manner (p. xii). Given the calls for more research into what constitutes genuine or authentic leader development (e.g. Avolio, 2005), the inclusion of a strong theoretically grounded approach such as the one advocated by Day, Harrison and Halpin (2009) is important and timely. So how well does Day, Harrison and Halpin's (2009) contribution advance the argument for incorporating a more theoretically rigorous approach into leader development?

The book is skilfully structured in six main sections. Section I is designed to introduce the reader to what constitutes theory, thus setting the stage for understanding the various theoretical lenses to examine the process of human and leader development. Sections II and III are dedicated to discussing leader development by drawing on adult development literature and subsequently by delving deeper into the more fundamental aspects of adult development such as moral and identity development. The weighted focus on adult development is interesting because it recognises that leader development is a complex lifelong process (e.g. Avolio, 2005). In this section, the authors also highlight the importance of personal trajectories of development and consequently offer researchers a number of guidelines for studying leader development over time. This focus by the authors has undoubtedly influenced the current research agenda on leader development, evidenced by the 2011 special issue in the *Leadership Quarterly* dedicated to longitudinal studies of leader development.

Section IV discusses learning-based approaches to leadership. The authors emphasise the role of mental models, gaining expertise and adult learning for leader development (p. 15). Although there is nothing novel about the theoretical perspectives on education and learning, the authors challenge the traditional andragogy framework predominant in leader development research. Instead they adopt ideas from scholars associated with the centre of creative leadership and in doing so pave the way for the use of the theoretically and practically grounded assessment–challenge–support model of development, which in their view offers more holistic insights.

Section V – the centrepiece of this book – splendidly integrates all of the interwoven theories into the authors' proposed integrative theory of leader development. The authors link leadership expertise (or the expert leader) at the most visible level, supported by leader identity and self-regulation processes at a meso level, with adult development at the foundation. With adult development at the foundation, their adoption of the selection–optimisation–compensation orchestrating process of successful and healthy ageing (e.g. Baltes, 1997) is an intriguing advance to the study of leader development. This process explains the lifespan building blocks in terms of adults setting and sticking to life goals (selection), using resources effectively in pursuing life goals (optimisation) and responding adaptively and effectively when goals are blocked or resources unavailable (compensation). Faced with the challenge of explicating a range of diverse and complex theories into one framework, the authors manage to convey their theory in a comprehensible and concise manner through their use of interesting and appropriate analogies. In the final section of the book, the authors conclude by offering an extensive range of possible hypotheses for testing with the aim of inviting researchers to test their integrative approach. The extensive work in developing these hypotheses will undoubtedly fuel substantial research to further elucidate the process of leader development.

Overall, this book is informative and insightful, suited for both an academic and practitioner audience. Attempting to provide a theory of leader development through synthesising existing scientifically sound research is an important advancement in the leadership field that will inevitably inform those responsible for leader development in organisations. At the end of each chapter Day, Harrison and Halpin provide a summary of the main theoretical perspectives and discuss their relevance for leader development. Although this section clearly highlights the linkages between the specific theories and their relevance for leader development, perhaps such sections would have had greater utility by offering more specific guidelines for practitioners. Although adult development processes underpin the overall theory they propose, perhaps surface level manifestations of leader development that are easier to accelerate should have received greater attention. Without disputing the fact that leader development is a lifelong process that develops over time in adults, little hope is provided by the authors when referring to the ten-year time frame necessary to develop as an expert leader (p. 180).This might not translate well for practitioners and even researchers on an intuitive level because 'we do not have a life time to develop leadership' (Gardner et al., 2005: 368). In this regard the authors missed out on an opportunity to draw on the recent research in the realm of positive organisational scholarship (e.g. Spreitzer, 2006), which offers unique insights into accelerating leader development in a shorter time frame. Notwithstanding that the authors' objective was to offer a theory of army leader development, one wonders whether the book would have greater appeal and relevance if more congruent with an organisational perspective. However, the crux of the problem resides with the fact that leader development by its very nature is a complex and context-dependent phenomenon. Not only are there significant differences in how individuals develop but an abundance of environmental factors play a pivotal role (p. 47).

In sum, *An Integrative Approach to Leader Development: Connecting Adult Development, Identity, and Expertise* represents a substantial contribution to the leadership field as it offers an all-encompassing and theoretically rich account of the process of leader development. To date, this avenue of research is mainly unexplored. Given its central objective of laying theoretical foundations and offering testable hypotheses, the book is primarily aimed at an academic audience. Nevertheless, the book would be a useful guide for human resource professionals in designing leader development interventions that are theoretically grounded. In line with their initial objective, Day, Harrison and Halpin (2009) have done much to advance the scientific study of leader development, but a number of concerns such as the time required and the context of leader development still persist. Nonetheless, the authors' contribution to the academic literature in particular is commendable and indeed timely.

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Book Review and Commentary

Rocket Surgery Made Easy: The Do-It-Yourself Guide to Finding and Fixing Usability Problems
Steve Krug
Berkeley, California: New Riders, 2009

ULTAN SHARKEY*

INTRODUCTION

Rocket Surgery Made Easy is Steve Krug's follow-up companion to his 2000 book *Don't Make Me Think*, and it details how to find and fix usability issues with your website, application or software. *Rocket Surgery Made Easy* does an excellent job of positioning itself as a handbook for quick and dirty usability testing, building on the commonsense approach espoused in Krug's earlier offering.

The book is structured in three sections over a series of very short chapters; this review follows a similar path. The initial nine chapters discuss the basic elements of conducting usability tests, the next four detail specific strategies for fixing what is found and the last three chapters are dedicated to emerging technologies, additional recommendations for reading and some useful materials with which to get your team started. The book is aimed both at professional usability people and those managing software teams. However, managers involved in any user-facing application, from mobile applications to the simplest of websites, would find this book a very accessible and practical guide to usability testing. Additionally, if you are planning on engaging a professional usability firm, this is a quick study in the process, practice and terminology of usability testing.

PRAEMONITUS, PRAEMUNITUS

Krug offers a few caveats before truly beginning the handbook. He admits it is not to be taken as a comprehensive addition to the multitude of usability tomes already in existence, though he offers his thoughts on many popular ones in the penultimate chapter. The book is purposefully succinct, undertaking to be readable on a long plane ride. The author carefully addresses a number of arguments that amateurs should not be delving into such important work. However, he does caution that if you can afford professional

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usability testing you should proceed with it. Finally, he bounds the book's purpose firmly within the realm of simple, informal and small sample usability testing, not to be used for fool-proofing systems but to make them a little easier to use without much fuss. Usability testing is an area of distinct interest to managers that is often ignored. When testing does occur it is often relegated to the finished product, when both the resources and appetite for alterations are sparse. A central theme of this book is to test early and often. The key points for software or product development managers to take home from this book are that its lessons provide the impetus to start testing early and often, and that it can be done with as little resources as you can wrangle. Later in the book, Krug even suggests that you show the 'napkin sketch' to a few people to ensure its veracity. This is the essence of the guerrilla approach.

A GUERRILLA GUIDE

Krug proceeds fairly directly to a straightforward, honest explanation of what is the proffered flavour of usability in the book – expedient, low numbers, qualitative testing. He contrasts his method with the depth of quantitative approaches but does fail to truly expose the value of true breadth in less expedient qualitative testing. That said, as the first chapter introduces the reader to the idea of guerrilla testing there is no surprise in the contrast presented. As a general rule throughout the book, Krug presents short anecdotes of his teaching methods that illustrate the value of the simplified method he presents. This chapter proves no exception, illustrating the method's basic workings by offering a typical story of a live demo usability test from one of his usability training workshops: an attendee is chosen to complete an abbreviated usability task on another attendee's own website, lasting for fifteen minutes or so. The results are reported in the text as four bullet points that quickly illustrate that the tester has enjoyed the process, the site owner has been busy scribbling what he has learned in his observances, the audience understands it's easy to do this, and Krug gets to present the rhetorical 'Does that seem like a worthwhile way to spend 15 minutes?' while the audience nods in assent.

The second chapter consists of a single page, consciously scant and directing the reader to watch a 24-minute online video, which brings the reader through an actual user test. The author devotes the whole, single-page chapter to the video in order to highlight the importance of watching the video, however the reader is encouraged to skip forward if the video is inaccessible.

In the following chapters the book outlines its various arguments for expedient usability testing, leading to the maxim 'one morning a month'. The author provides a useful comparison between traditional usability testing's 'big honkin' test' with his stripped-down version of 'do-it-yourself testing', illustrating differences such as in cost (thousands versus hundreds), the time spent (over a week versus a single morning), and importantly the primary purpose – a long detailed list of issues categorised by their severity versus a small list of the most serious items.

The next item on the handbook's agenda is when to start this testing. The author dissuades the inclination to wait until the project is complete before testing, instead suggesting that you test your existing site or application, competitor sites, sketches and wireframes as well as prototypes and everything beyond. He provides a useful illustration with a napkin test where you show the earliest of designs to almost anyone and see if they understand *what* the thing is rather than give an opinion on whether they like it or not.

The next hurdle this guide brings you over is the difficulty of getting testers, figuring out how many, how to source them and how you might compensate them for their time – all real issues with any research. Krug quickly and fairly neatly dispenses with these, summing up with another motto – 'Recruit loosely and grade on a curve'. Instead of seeking the elusive 'representative user' find some who reflect your audience but don't overly worry about it. Use just three testers to find the big problems you *can* fix instead of more testers finding more minor issues you don't have time to fix. On accessing testers, Krug refers to Willie Sutton's answer on why he robbed banks: 'Because that's where the money is.' This encourages the guerrilla usability tester to think about where the participants might congregate. To recruit more senior participants, as an example, he suggests placing invitations in libraries and church group events. Chapter 6 encourages the reader to think about the tasks a user might do and detail how to create scenarios around those tasks. This is followed with a detailed chapter on the conduct of the tests themselves, giving quick guidance on such research issues as impartial observance, basic ethical considerations, layout of the testing area and the phrasing of probing and prompting questions. Throughout these chapters the author presents quick checklists for everything, again displaying the goal of this book as a handbook of implementation.

FIND, BUT ALSO FIX

The debriefing section begins in earnest with another maxim imploring a careful focus in prioritising the more serious issues and not the easiest-to-fix issues. Krug again presents specific, numbered guidelines for running a debriefing meeting yet still manages to paint a quick picture of the room. The convenor writes the top three issues from each tester on large sheets until everyone has had their voice heard. A new sheet is filled with a prioritised top ten and the team proceeds to discuss and add the minimalist fix for each issue. The big problems are the focus, to ensure that your resources are deployed most effectively. The minimalist fix is presented again with dualistic arguments for the perfect fix (fixing it for all users takes more time and work) versus getting it done (fixing it for most users without too much time or effort). Krug then presents some of his favourite usability issues, which he has encountered time and time again in his years of experience. In the final chapters of the how-to-fix section, the author mourns the unimplemented results of large-scale user tests – 'big honkin' reports' – that he himself once wrote while briefing the reader on the essential elements of change management and strategies to help make your test findings see the light of day.

QUICKER AND DIRTIER

The final chapters talk about the advantages and disadvantages of emerging solutions such as remote testing using video conferencing or screen sharing and internet telephony services. Krug tends to play up the advantages somewhat, such as the convenience, access to a larger pool of participants and producing similar enough results for some circumstances.

However, he also draws out the distinct disadvantage of not having as much control in the session. He presents little strategies as usual for the conduct of remote sessions, advising a pre-test of screen sharing, managing interruptions remotely and how to adjust the task scripts appropriately. He rounds off the discussion cautioning that it's really not to be tried without a few face-to-face sessions under your belt first. A further innovation on the screen sharing approach, called 'unmoderated remote testing', is discussed next. These are web-based services where you can upload a series of tasks, enter the domain name or location of the application to be tested and receive the recorded audio from a usability session conducted by one of the service's pool of testers. Krug says they are surprisingly helpful given the low cost, low effort and speed at which you get data.

CONCLUSION

The book directs itself at the non-professional who just wants to do some testing. While it certainly completes this goal, I would not be surprised if the first group to have purchased this handbook were indeed the experts whose shelves are lined with some of the volumes Krug lists as recommended further reading in the last chapter. Additionally for managers who engage usability testing professionals in their product development, the book serves as a quick study of the field to better manage those relationships. The second distinct goal of the book is that the findings of a usability test must be implemented. Chapters 10 through 13 detail how to manage the findings, prioritising what to fix and the best way to fix them. This more directly opens the book's audience up to developers and their managers. Regardless of whether you intend to directly implement usability testing or engage a third party, this book gives you the tools and the vocabulary necessary to manage such a project. More importantly, it might provide the impetus to make usability a priority. As a short yet comprehensive guidebook, this is a valuable read for any business doing anything on the web or with software product development. If you care about your products' end user, this book is a valuable asset.

Krug begins the book explaining that one of the reasons for the nine-year delay between his earlier effort and this offering is that he finds the task of writing an agonising one. Despite that assertion, the writing style is far from pained. It is light and conversational. It is witty and sparse. It covers the content quickly but at just enough depth to help the reader understand the important concepts without dwelling too much.

In his discussion of remote usability testing, Krug estimates that one loses 20 per cent of *something* by not being in the same room as you would be in his guerrilla testing approach. In his description of unmoderated remote testing he suggests that the value is somewhat eroded but that it retains a certain place in the toolbox. This admission alludes to the greatest lesson from the book. I say 'alludes' because it's never explicitly said and is marked by the absence, considering the directness of the rest of the writing. Whilst one can find the majority of the big issues – the 'low-hanging fruit' – with the guerrilla testing approach, there is an amount that remains undiscoverable without serious professional research. The trick is to retain standards as high as can be managed in your circumstances to make that undiscoverable percentage less significant. This book is the perfect companion to finding the highest quality of that low-hanging fruit.