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Development Strategies for International Distribution in luxury industry.

Fabrizio Mosca
University of Turin, Italy

Bernardo Bertoldi
University of Turin, Italy

Chiara Giachino
University of Turin, Italy

Abstract

This paper is the joint work of three authors however, the introduction, the paragraphs on distribution strategies, selective or exclusive direct distribution , the distribution strategy for luxury goods in practice: the mixed option, distribution strategies in global markets, and the conclusions are attributed to Fabrizio Mosca, while the paragraphs on an Italian model for international development: Brunello Cucinelli, synergy with the local area as the cradle of the product, local production but distribution on a global scale, are the work of Bernardo Bertoldi, while the other paragraphs are the work of Chiara Giachino.

Introduction

Distribution is one of the strategic variables in managing the marketing mix for high symbolic value goods.

In recent years, companies have multiplied their investment in sales outlets in order to strengthen their direct presence in distribution and to increase their control over relations with the end-consumer (Mosca, 2010).

The principal factors influencing decisions relating to distribution are the profile of the consumer, of the product and of the business (Peter, Donnelly, Pratesi, 2013).

The characteristic uniqueness and rarity of goods with a high symbolic value require the distribution variable to be managed in a way that is in line with the company's marketing and development goals. At first glance it is possible to identify two opposite and conflicting needs for businesses managing distribution in high-end goods markets. One the one hand there is the need to preserve and reinforce the brand image and the idea of the uniqueness of the product while, on the other hand, such products have to be made available, efficiently and effectively, in the target markets.

The first need induces the management to adopt a highly selective approach to distribution, opting for channels that allow then to control the intermediaries and retain a leadership role in the distribution channel.

The second need induces the management to ensure maximum availability of the products on the market, including by selecting indirect channels. It would be mistaken to assert that firms operating in the market for goods with a high symbolic value do not consider their primary objective to be to increase market share by widespread product placement. Therefore, if the simplest option for the businesses in question seems to be control over the channel and over selection of the intermediaries, this also runs the risk of an inadequate presence in the products' outlet markets if the management have been

excessively selective.   This means that the strategic management of the distribution variable for top-of-the-range goods has to balance these two opposing needs, preserving exclusivity while winning market share (Kapferer, Bastien, 2013), in other words, balancing between control over the channel with adequate distribution cover (Mosca, 2005).

The aim of this article is to identify the marketing strategy for a medium-size Italian business operating in the high-end market, using case studies and one symbolic study in particular.

The Cucinelli case is particularly significant because, in the opinion of the authors of this study, it represents a benchmark model for the international development of a global distribution system for the luxury goods market.

Distribution strategies

Drawing up an integrated distribution plan is a highly complex endeavour, not least because of the difficulties involved in standardising decisions about how to configure the channel or the type of intermediaries to be selected (Bursi, Galli, 2012).

The following factors affect strategic decisions relating to the distribution variable.

a) Strategic decisions about the vertical structure of the distribution channel involve a choice between direct and indirect distribution, between a short and a long channel, and the ways the roles of the various actors are to be divided.

Direct distribution means that the business sells its goods and services to end-consumers through its own sales personnel or though sales outlets it owns. In indirect distribution, on the other hand, one or more intermediaries operate between the producer company and the end-consumers. The length of the indirect distribution channel can vary, with just a few intermediaries in a short channel, or numerous intermediaries in a long channel.

b) Strategic decisions about the distribution coverage involve choosing the number of intermediaries necessary for adequate coverage of the target market.

Distribution coverage can be defined in terms of the rate of density, meaning the number of sales outlets made available for purchase of the finished product. Many academics divide this rate into intensive, selective and exclusive distribution.

Selective or exclusive direct distribution

A direct distribution channel places the producer in contact with the end-consumers, with no mediation by other entities.

Physical retail sales outlets can be a highly effective platform for building customer relations, for communications and the exchange of information between the company and its customers. They can thus become an increasingly important strategic tool for the businesses that use them for distribution, lending weight to the creation of value within the various supply chains. (Pellegrini, 2001).

Location, in terms of choosing the right town or city for the new store, is of vital importance for a direct channel. Once this town or city has been selected, choosing the store's location within it is relatively simple (Chevalier, Mazzalovo, 2012).

Direct control over distribution favours businesses selling high-end goods, bringing numerous advantages.

Graphic 1 Advantages of direct distribution channels

Greater knowledge of customers
Availability of better, more reliable market information
Price control
Reduced contribution margins
Consistent brand image
Control over unsold products
Uniform customer service
Direct integration between the IT systems of the company and the sales outlets

In this distribution option for high symbolic value goods, the producer manages the channel directly, without using any intermediaries, and the chosen model for distribution coverage is a limited number of sales stores.

The exclusive direct distribution system is the extreme version of selective distribution. It is preferred by businesses intending to distinguish their products with a policy of high quality and prestige and building better relations with their customers (Chevalier, Mazzalovo, 2013).

It is particularly favoured by producers of high symbolic value goods in order to meet the need for tight control of the distribution channel. In the period between mid-1990s and the second half of the subsequent decade, all the main players in the luxury goods market launched an intensive campaign to open mono-brand point of sales under their direct control and management.

Graphic 2   Directly Operating Stores owned worldwide by some global brands in recent years.
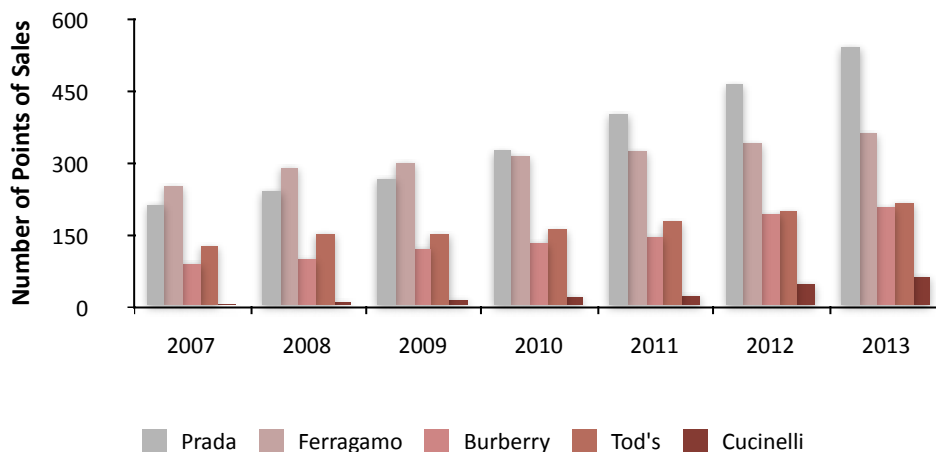
Source: company figures from the balance sheets for 2007, 2008, 2009, 2010, 2011, 2012, 2013.

As can be seen from the graph, the sample of brands under consideration (Prada, Ferragamo, Burberry, Tod's, Cucinelli) have steadily increased their presence in direct distribution, opening new point of sales in the main world markets.

A detailed analysis reveals that numerous companies have the reduced the percentage weight of their turnover originating from indirect distribution in favour of direct distribution.

Selective or exclusive indirect distribution

The strategic option for selective or exclusive indirect distribution is chosen when the business intends to make its products available to end-consumers by way of intermediaries in the distribution channel.

An indirect distribution channel is defined as long when it contains a high number of intermediaries while a short channel is the opposite. Businesses use an indirect channel to improve their distribution coverage, avoiding the risk of an inadequate market presence, including in competitive contests in which it is necessary to preserve the band image in terms of consumers' perceptions of the uniqueness and exclusivity of the goods (Mosca, 2010).

Companies that do not export on a regular basis or that are uncertain of their ability to maintain a sizeable and regular flow of overseas sales benefit from selling to intermediaries without having to worry about building their own overseas sales network (Pellicelli, 2009).

Selection of the intermediaries within the distribution channel is a particularly sensitive operation for manufacturers of high symbolic value goods, since they still have to achieve all the goals listed above: maximising customer relations, controlling upward and downward information flows and loyalty-building.

In transferring goods and services from producers to users, intermediaries perform some essential functions. Above all they have a transactional role in their purchasing and sales activities, in addition to a logistical function and a role as facilitators in matching supply and demand (Kerin, 2010).

An unsuitable choice carries considerable risks, bearing in mind distribution channels' marked tendency for inertia in that long-terms commitments, including those of a contractual nature, can lead to problems in terminating existing relations.

Businesses must at all costs avoid unsuitable sales outlets because what is known as the "halo effect" can prejudice product image (Poiani, 1994).

Graphic 3   Advantages of indirect distribution channels

Less investment of financial resources with more resources available to direct into other activities.
Lower fixed management costs since these are born by the intermediary.
More rapid market penetration, provided the independent distributors have an adequate organisation.
Use of expert personnel with in-depth knowledge of the behaviour and habits of a particular market.
Spreading the risk of unsold stock.
More efficient management of working capital.

The reasons why the main players in any sector choose an indirect distribution channel in a particular market are largely linked to a risk-reduction strategy in less attractive markets in the initial brand development phase, or to the need for rapid penetration in new markets in order to exploit first-mover advantages.

Small and medium-sized enterprises opt for indirect distribution in order to gain visibility in the short-term and to increase their market share if they do not possess the necessary critical mass or adequate financial resources to undertake the commitment of direct distribution. (Mosca 2010).

Indirect distribution makes it possible to adjust distribution costs to match real sales volumes while maintaining the flexibility of the company's financial structure.

The distribution strategy for luxury goods in practice: the mixed option

In practice it is often impossible to use only one type of channel. In this situation a multi-channel solution can be adopted with a mix of channels that may differ in at least one way, such as the length of the channel, the distribution density and type of intermediaries used in each stage of the process (Grandinetti, 2008).

Indeed, very few businesses opt for only a selective direct distribution system. Directly managed outlets can often exist alongside indirect channels, even in the same market. The mixed option has been encountered in all the merchandise categories analysed, even if there is a difference between more highly priced, prestige brands, for which selective direct channels prevail, and lower-priced prestige products for which indirect distribution trumps direct distribution.

When both direct and indirect distribution systems exist side-by-side, this has major implications for correct management of the channel, in that there must be a clearly defined mission for the different types of intermediary.

The primary function of indirect intermediaries is to guarantee a constant revenue flow and an increase in market share, even if there has been some criticism of the use of intermediaries for the distribution of goods, based on the assumption that the profit made by the intermediary unnecessarily inflates the price paid by the end-consumer. (Peter, Donnelly, Pratesi, 2012).

Even in the context of luxury goods, the purpose of the distribution coverage is to achieve market-share goals.

In contrast, the primary function of direct sales outlets is communications, acting as the vehicle for conveying the brands image to the end-consumers.

In the market for high symbolic value goods, businesses can find it difficult to increase their market share and, along with this, their sales volumes, in that the brand image and positioning are static from the point of view of the end-consumer. As these products become more widely available, with additions to the product range and brand-extension, in which the brand is applied to more types of product, including those outside the traditional merchandising categories, the brand can lose its exclusive appeal in a process known as banalisation, requiring the right strategies to combat this.

A brand-extension policy is of particular significance for the inherent potential of the brand image, seen as an intangible asset used to increase customer loyalty to the company, including in new contexts removed from its traditional sphere of activity (Baccarani, Golinelli, 1992).

Graphic 4   Mixed distribution strategy in the market for high symbolic value goods.

DISTRIBUTION COVERAGE		DIREC	SHORT	LONG
	INTENSIV	HIGH-END BRANDS AND PRODUCTS WITH HIGH SYMBOLIC VALUE	HIGH-END BRANDS AND PRODUCTS WITH HIGH SYMBOLIC VALUE	OPTION NOT TAKEN UP
	SELECTIV	HIGH-END BRANDS AND PRODUCTS WITH HIGH SYMBOLIC VALUE	ACCESSIBLE-LEVEL BRANDS AND PRODUCTS WITH HIGH SYMBOLIC VALUE	ACCESSIBLE-LEVEL BRANDS AND PRODUCTS WITH HIGH SYMBOLIC VALUE
	EXCLUSIV	OPTION NOT TAKEN UP	OPTION NOT TAKEN UP	OPTION NOT TAKEN UP

VERTICAL STRUCTURE

Source: own analysis of the case-study companies.

The Cucinelli case-study serves as a model for the above distribution strategies, showing the distribution routes to internationalisation taken by some medium-sized Italian enterprises in global luxury markets. In particular some questions can arise from the case study: could we consider Cucinelli's distribution strategies a model for globalization of luxury firms? Are there any other globalization models? Can we consider the choice of maintaining the production in Italy and, at the same time, the choice of going global with direct distribution the correct way for competing in the future? Are there any differences in the distribution strategies between medium-sized Italian companies and global players? Is there a correlation between the high profitability of Cucinelli and the direct distribution strategy?

An Italian model for international development: Brunello Cucinelli

Brunello Cucinelli is an Italian fashion company operating in global luxury markets, having made a name for itself as one of the most exclusive brands on the global fashion scene.

Brunello Cucinelli is worldwide renowned for the excellent quality of its cachemire wool products; Its selling points are the fact that it is all-Italian in design and manufacture, its high quality, hand-crafted processes combined with creativity and the ability to reinvent itself and keep in tune with times.

The company follows an entrepreneurial model with an ethical, humanistic ethos based on such values as the dignity of people and of their work, combining business efficiency with a social mission.

Cucinelli Group products sit at the top of the luxury pyramid, absolute luxury goods as defined by Dubois, Laurent and Czellar[1], to indicate this particular market segment. Such merchandise is characterised by top quality with a high price position, marked by a uniqueness that makes it accessible to a limited circle of the "happy few", with exclusive, highly selective distribution and strong cohesion, both internal and external of the brand image, maintaining a link with the past.

The goal of Brunello Cucinelli is to make a profit while placing company personnel and working partners centre stage, as the principal stakeholders.

The profit-making goal is pursued but with the utmost dedication to creating value for all these stakeholders.

The way the company has evolved owes its originality to the entrepreneurial vision of its founder and main shareholder, after whom the company is named. The personal and entrepreneurial way of thinking demonstrated by Brunello Cucinelli owes a lot to his teenage years when he first came into contact with both classical and modern culture, being particularly inspired by such historical and philosophical figures as Alexander the Great, the Emperor Hadrian, Immanuel Kant, Saint Benedict of Nursia and Fyodor Dostoevsky.

Brunello Cucinelli put these principles he had learned from philosophy into practice in his own business, placing at the centre of all its operations that 'supreme good' that is the care for and safeguarding of humankind.

"Giving our enterprise a meaning that goes beyond the profit motive, reinvesting to improve the life of our workers and to recover and enhance everything beautiful about the world" (Cucinelli).

In his conviction that the beauty of environments and landscapes enhances the creativity of the people working in a business, enabling them to build a community with shared values and ideas, Brunello Cucinelli located his 'humanistic enterprise' in the 14th Century hilltop village of Solomeo.

According to the company's founder, profit only has true value when it is spent on improving human existence and growth and "that is our goal".

The lynchpin of the company founder's philosophy is the axiom of the sophist Protagoras "Man is the measure of all things" and this is what inspired him to consider the human being the supreme good.

While it is necessary for every business to make a profit, this assumes a subordinate role to the creation of human value and it cannot belong to a single person but rather it must involve the entire community.

This unconventional vision was behind the founder's choice of location for his business with a strong bond to the local area and particularly apt for the sector in which the brand operates.

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[1] B. Dubois, G. Laurent, S. Czellar, *Consumer rapport to luxury: analysing complex and ambivalent attitudes*, Working paper 736, Hec School of Management, France, 2001.

The table below shows the financial performance of the company, the growth in sales and the dynamics of the principal profitability indicators.

In both the 2012 and 2013 trading years there was a double-figure growth in sales. Net sales amounted to 322 million euro (+15.5%) in 2013, compared to 279 million euro recorded on 31 December 2012, in constant growth in the last trading years.

Table 5   Brunello Cucinelli, quantitative information on turnover and EBITDA from 2009 to 2013

	2013	2012	2011	2010	2009
Net sales	322	279	243	204	158
EBITDA	58	49	40	24	15
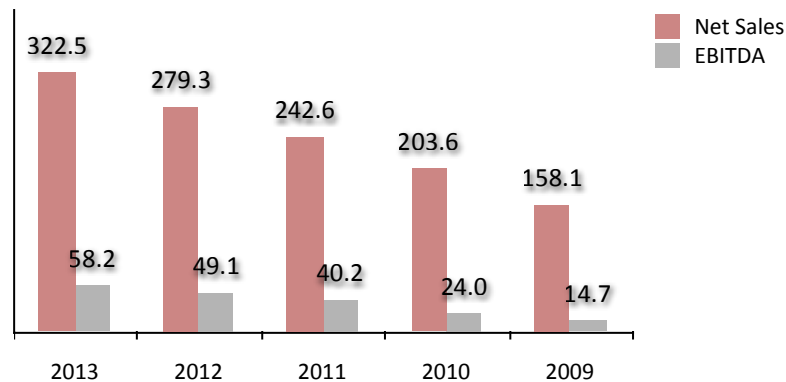
Source: company balance sheets for 2009 to 2013.

Synergy with the local area as the cradle of the product

The hilltop village of Solomeo, home to the company headquarters, plays an important role in the entrepreneurial vision of Brunello Cucinelli, in that the place is a talisman for all the local design and production carried out by the company. The symbolic nature of the place where everything is produced, encompasses the whole concept of Italian goods, helping further to reinforce the perceived value of the product. The beauty of the landscape, the unspoilt nature of the place, still in touch with its natural surroundings, are all factors that contribute to his vision of a 'Humanistic Enterprise' .

The Cucinelli creative genius and artisan skills which can never be divorced from their location and are the perfect embodiment of the 'Made-in-Italy' brand, are enhanced by this territorial and entrepreneurial eco-system. (Point de Vue, Cucinelli, 12/2013).

Artisanship is one of the essential hallmarks of Brunello Cucinelli, inspired by the thinking of such great philosophers of the past as Lorenzo the Magnificent (Lorenzo de Medici), in that the company considers this the key factor that sets a successful company apart.

The entire production process takes place in Italy in a set of carefully selected external workshops and highly specialised medium-sized enterprises that serve the cream of the fashionistas and are located in the Region of Umbria.

"Umbria is the region to which I owe everything, for the beauty that has nourished me" (Cucinelli, Il Giornale dell'Umbria, 2011). This affirmation is proof of the entrepreneur's deep roots in the land of his birth. He draws inspiration from the beauty of the landscape and its cultural traditions to lay the foundations for his business and it inspires him to create a product of the very highest quality.

The company is conceived as an open social system in which the collective voice has a central role, influencing both the setting of goals and the end-products, resulting in a complex system with beauty and harmony at its core.

Local production but distribution on a global scale

Each and every Brunello Cucinelli collection is backed by in-depth research and painstaking selection of raw materials of the highest quality: yarns, fabrics and hides, with cashmere as the starting point. This rare and highly-prized woollen yarn, sourced mainly from Italian suppliers, has for years been at the heart of production.

The marketing strategy of the Brunello Cucinelli Group encompasses a mix of the local and global.

The entrepreneur has decided to keep the entire production cycle in Italy, laying great store by the competitive advantage to be gained from his strong bonds with the area. However, this insistence on local production does not rule out expansion into international markets, in line with the strategies of the fashion sector. Internationalisation is to be achieved by implementing a global distribution system that is both direct and indirect.

Flotation on the stock exchange has raised the company's international profile, making it possible to make use of financial resources provided by investors the world over thus, according to the company's founder, ensuring its long-term prospects and the necessary resources for global development.

Brunello Cucinelli's strategic choice sets him apart from his competitors who, in the past, have sought competitive advantage by exploiting the lower labour costs in countries other than their nation of origin. Their tendency is to see globalisation in terms of both the production process and distribution, placing less importance on the values and synergies of their local territory.

Local production, taken to mean production deeply rooted in the territory of origin that involves and empowers the local workforce whose know-how is passed down over the generations, has actually made a major contribution to maintaining Cucinelli's competitive advantage over his competitors in the luxury market.

Distribution strategies in global markets

Brunello Cucinelli today has a presence in 54 countries worldwide with both mono- and multi-brand stores.

Distribution is both direct and indirect. The directly operated stores have also been set up with the aim of communicating the brand values and putting across the concepts of artisanship and personalised production, in addition to the broader concepts of culture and universal values, the art of living, the symbolic vision and the Italian lifestyle.

The Brunello Cucinelli product therefore fully embodies the essence of the luxury product in which the tangible product is accompanied by a set of additional values such as ethics, rarity, heritage, experience and exclusivity, all of which give the product its symbolic value.

Brunello Cucinelli places his brand on the market through a number of different distribution channels.
- The direct channel, in which the company controls the management of its directly operated stores.
- The mono-brand indirect channel, consisting of mono-brand shops operated by means of trading agreements. The company has set up a system of intermediaries.
- The multi-brand indirect channel, consisting of independent department stores and in-store independent boutiques, known as shop-in-shop. For this channels the company calls on intermediaries, represented by independent department stores, to handle sales to the end-consumers.

The tables below shows an analysis of the evolution of direct and indirect distribution and turnover over the last three years.

Table 6   Brunello Cucinelli, analysis of the growth in sales stores worldwide

	31 Dec 2013	31 Dec 2012	31 Dec 2011
Retail DOS	61	46	23
WHS mono-brand	37	35	39
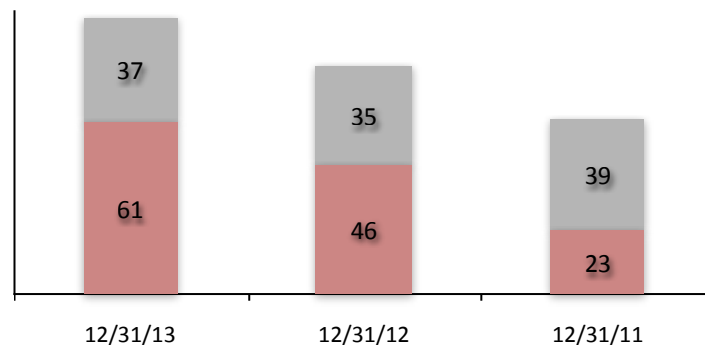
Source: analysis of the company consolidated balance sheet 2013

Table 7   Brunello Cucinelli, turnover divided by distribution channel, from 2010 to 2013

31 dec 2013

● Retail DOS
○ WHS monobrand
● WHS multibrand
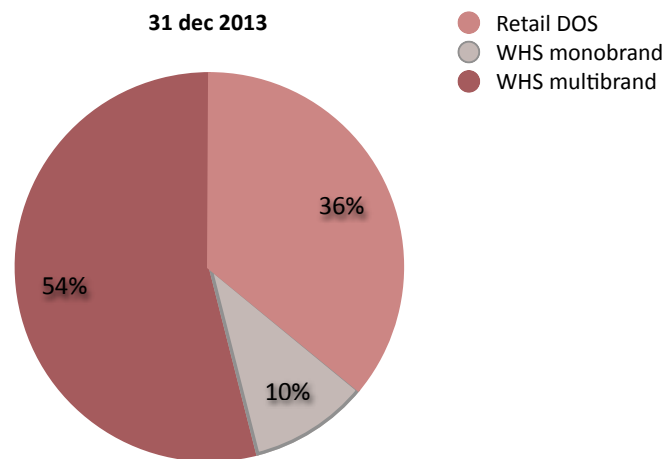
Figures in millions of euro	2013	2012	2011	2010
Retail DOS	115	77	54	34
WHS mono-brand	33	33	27	20
WHS multi-brand	174	170	162	150

Source: analysis of the company consolidated balance sheet 2013

As can be deduced from the analysis of the figures for 2013, the retail channel generated net sales of 115 million. In 2013 the wholesale channels showed an increase on the previous year, with the mono-brand wholesale channel recording net sales of 33.1 million, an increase of +1.2% on the previous year, while the multi-brand wholesale channel recorded net sales of 173.9 million, an increase of +2.5% on the previous year.

From the analysis of the Brunello Cucinelli figures, it is possible to make the following observations.

a) The global distribution strategy is consistent with the choices of the main players and competitors in the sector
b) There is a good balance between direct and indirect options in international markets with sales growth becoming steadily more weighted toward the direct channel.
c) Progress toward international development has accelerated following the decision to float the company on the stock exchange.

Internationalisation in global markets

Brunello Cucinelli maintains that the plan to float the company on the stock exchange, launched in 2011, can still be in keeping with his "healthy, people-friendly and sustainable" growth objectives for the business.

Brunello Cucinelli opens his doors in Solomeo to investors and shareholders who he hopes will, over the coming decades, want to see themselves as the custodians of human beings and their moral and economic dignity.

The entrepreneur asserts that: "A business is not an inheritance. Too often we think that it is, leading inevitably to its aging. The world is changing rapidly. If, after the launch on the stock exchange, I will still hold 60-70% of this stock, this means that I won't be leaving everything in the hands of my children. 90% of businesses die along with their founders. I however, want to ensure that this business lives on for some 20, 30 or 40 years after me" (Il Giornale dell'Umbria, Cucinelli, 2011).

The company plans to continue opening new directed operated stores at a rate of 18-20 a year over the next two years to increase the visibility of the brand and consolidate its presence in the world's major markets. Currently mono-brand stores make up nearly half of sales. The goal in the space of these few years is for this channel to account for a full 50%. This strategic choice is in line with his aim of retaining control over the brand and raising its perceived value. Turnover has increased in all markets, with the exception of Italy (-2.9%), the market still considered essential for defining the international profile of the collections, how they are received and judged.

The table below shows the company's international presence within the distribution system, demonstrating a major push in the direction of global distribution with a greater incidence of the direct channel in the European market.

Table 8 Brunello Cucinelli, number of mono-brand stores in global markets

	Italy	Europe	N America	China	ROW	Total
Retail DOS	11	19	15	16	-	**61**
WHS mono-brand	4	21	1	2	9	**37**
Total	16	40	16	18	9	**98**

Source: analysis of the 2013 company balance sheet.

Conclusions

Brunello Cucinelli is a company that sets itself up as an example of the Italian way of dealing with competition in the luxury market, placing most of its weight behind the influence on the band's product of the territory that is its home.

In order to gain competitive advantage, the company has based its strategy on the fact that the goods are locally produced and that the product concept is firmly anchored in that territory and its artisan skills.

Finally, global distribution allows the company to export that famous Italian know-how, positioning itself as one of the major players in that competitive arena that is the global luxury market.

The strategies chosen for global distribution are in line with the best practices in the high symbolic value goods sector.

Direct distribution is used to protect brand values during the process of internationalisation and market expansion, by opening the company's own retail outlets in order to project a carefully managed and accurate image of the brand.

The role of indirect distribution is to increase global distribution coverage while reducing risk and the financial burden.

Currently the company's distribution coverage is much greater in Europe than in the other geographic areas the reason why, since 2010, a strategy has been adopted to expand into many other countries worldwide. Brunello Cucinelli is clearly aiming to extend the company's geographic borders while leaving the selective market penetration criteria intact, with a particular focus on the retail channel.

China, which is without doubt by far the most rapidly growing market for luxury goods, is the main target for the company's future expansion, indeed its founder states that he sees Beijing as the cultural capital of the 21st Century.

The company's flotation on the stock exchange has enabled it to progress from a family concern to an international player without losing its identity as an enterprise with a human dimension with strong ties to its home territory and the values the company holds dear.

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AdVenture India: Chartering growth moving up the horizon

N. Chandrasekaran
Jansons School of Business, India

Lakshmi Kalyanaraman
King Saud University, Saudi Arabia

Abstract

AdVenture India is a South India based commodity trading retail business which is listed a leading Multi commodity exchange in India. The company which was started in 2006 has managed to grow in six own offices and nearly 32 franchisee operators mainly in Tamil Nadu and Andhra Pradesh. However, the company has its own challenges in managing growth. The challenges are due to some defunct franchisees, ability to augment resources and leverage the brand recall in related businesses. The case discusses issues relating to options that could be available for the company to propel to next stage of growth and move into a horizon of leading pan India non-banking financial services company largely in the space of commodities trading and probably into currency as well.

Disclaimer

Statement

Context setting

The promoter of AdVenture India, Raja was convinced he had a good business model that can be scaled up quickly and profitably . The reasons for this optimism stemmed from the relative newness of the idea of retail broking in commodities and forex trading in India , the fact that the business had worked well in "small model" and the prevailing atmosphere of accelerated liberalization of the economy visible on the horizon. The road to growth threw up may choices of geographic scope as well as choices of business model namely whether through franchise or " self managed " own branches . Also, there was another challenge thrown up by way of structuring forex trading business in the same brand and using economies of scope strategy for growth. The promoter has the courage of conviction that he can make AdVenture India a pan Indian organization.

One can say the promoter is spoilt for choice with respect to scope and scale–expanding range of commodities, geography, advisory services and so on. Even using NYMEX

based trade seems open especially for metals , energy and other commodities .The time arbitrage vis a vs NYMX has high potential for investors. It may be important to note that apart from institutional market operators, retail investors are increasingly showing commitment for trading in commodities market in India. Further, a large number of small and medium business ventures are participating for understanding the price trends and how it could impact their business. Number of them are using to build experience in their hedging strategies for better management of purchase function, Hence, commodities trading market is rightly positioned.

Given the surge off first generation billion dollar entrepreneurs in India – Flipkart, JustDial , Bharat Matrimony.com and so on, this ambition is well aligned with the current national agenda of enabling rapid growth of enterprise .

Background

AdVenture India is in the business of non-banking financial services and more specifically into commodity trading and broking services . They are registered with MCX, the commodity exchange of India. The business model is broking services to retail clients in the commodity exchange as well as in broking services. The business is equipped with on line trading licence and real time trading platforms.

The promoter of the company is Raja GD (Raja) is in his early thirties. Raja is a personality who wanted to be an entrepreneur right from his early childhood days and his education in engineering and management helped him take measured steps to achieve his goal. He did not sit for placement when he pursued his professional courses. As he graduated out of his management school in 2003, he set up his first business in service industry. Over the last decade, he has built on his dreams to be a noticeable young entrepreneur.

AdVenture India, set up by him in 2004, is a leading retail broking firm in commodities in South India and acquired good brand salience in the state of Tamil Nadu in India. It has fair share among players who operate in the retail market which is 1.5 % of retail trade in MCX as of August 2013.   Currently six national exchanges,   and sixteen Commodity specific exchanges recognized for regulating trading in various commodities approved by the Commission under the Forward Contracts (Regulation) Act, 1952. Out of twenty two recognized exchanges, Multi Commodity Exchange (MCX), Mumbai, National Commodity and Derivatives Exchange (NCDEX), Mumbai, National Board of Trade (NBOT), Indore, National Multi Commodities Exchange, (NMCE), Ahmedabad, and the ACE Derivatives & Commodity Exchange Ltd., contributed 99% of the total value of the commodities traded during the year 2011-12. There was the break out of the National Spot Exchange Ltd (NSEL) scam which affected the market in 2013. Further, MCX was severely impacted by the introduction of the commodity transaction tax (CTT) in July 2013. A tax of 0.01 per cent was imposed (on the sell side) on all non-agri commodities including gold, silver, industrial metals and energy. This increased the cost for arbitrageurs, already operating on wafer thin margins. Many traders wound their positions and made an exit. MCX, which is the largest commodity bourse for non-agri products in the country, saw its volumes drop to a third. Such moves affected AdVenture India business but was expected to be a short term environmental phenomena and growth strategy must overlook all these for a long term positioning.

Genesis

Raja's father Mr.Gunasekaran is logistics service provider who provides transports service from point to point movement of goods in Chennai to southern districts of Tamil Nadu and has also placed vehicles in certain bulk products like in cement factories vehicles for outbound movement of goods. Mr.Gunasekaran's passion is to help families in his neighbourhood to be gainfully employed and thought best way to provide job is to be on own. He wanted his son Raja to pursue engineering in Computer science from a well-known institution in Coimbatore and encouraged him to pursue his higher education in management. Mr. Gunasekaran also wished that his son to go abroad for higher studies. Raja was convinced that he must become an entrepreneur and run different set business matching with time and opportunity available.

Though there was a recession in the economy because of bust of dotcom companies and the environment was gloomy, Raja was clear that he would focus on venturing into business. He started off with several opportunities like setting up of training centres for skill development and small size real estate projects. He ventured into manufacturing of instant coffee powder and exporting in bulk especially to East European countries which gave abundant opportunities for growth. He was conscious of the fact that there are a number of challenges in this business. These include:

1. Dealing with countries in East European which themselves faced some crisis
2. Foreign currency risk
3. Business risk with respect to sustainability of customer relationship and scaling up
4. Price risk of coffee beans and parity on processed coffee at international market and so on.

Entry into commodities broking

Raja had a chance to dabble in the commodities market when he was trading for coffee. He found price risk to be a huge factor in his business; how markets are using advantage of spot and futures trading and also operations of formal and informal markets in India. Though the commodity prices in India especially in agro-based products are highly volatile because of a) vagaries of nature , b) intermediate stockists , c) lack of depth in the commodity exchange . This business ecosystem is still evolving.Some speciality aucytions like tea, coffee and plantation usufruct are more developed but particpipants are limited and attracts little or no retail interest.

It was quite convincing to start trading in commodities market. India, commodities market was in nascent stage as developments started happening in the beginning of early 2000s. Multi commodity Exchange and others started operational. AdVenture India started its foray into the business by being a sub broker in 2004.

Years of growth

AdVenture India was formed in 2004 as a sub broker based out of Chennai. Soon, the company worked on getting membership of MCX, one of the largest commodity exchanges in India. AdVenture India became a registered trading broker in 2006 with an office at Chennai.

Within six months, the company could establish another five offices namely at

Coimbatore, Salem, Vellore, Trichy and Madurai. It focused on developing retail business of commodities trading through setting up of these terminals and network in bringing local retail investors became important in achieving growth. Setting up of office involved committing a sizeable amount of capital and organizational efforts. Though AdVenture India brand became popular by 2008 and recall from retail investors became high, the company had options of creating own branches versus franchisees model wherein there is a distribution network to be created.

Setting up on an office, on an average would cost about Rs.10 lakhs of capital expenditure and then there would certain operating costs like human resources, selling and general overheads and so on. For example, as a thumb rule, AdVenture India works on setting up an own office if the daily traded volume is about Rs. 10 crores. As of August 2013, AdVenture India on a day transacts about Rs. 400 crores and 40 per cent is contributed by six own offices. The balance business comes from active 70 franchisees. It may be noted here that there are about 320 franchisees. Of which only, 70 are considered to be active. This has been a concern area as franchise showed keenness for business but lacked drive and competence to propel growth at their level.

A franchisee is a sub-broker of AdVenture India and establishes an office in a small town to run business in commodity trading among retail investors. There are about 32 districts and 217 talukas in Tamil Nadu . One of the administrative ways of handling is to ensure that AdVenture India is present in all districts of Tamil Nadu and preferably in all talukas where there is an insurance office and / or any other Non-banking financial services firm is operating especially from investment perspective like chit funds.

AdVenture India had an issue with respect to appointing franchisees. There are certain districts like Coimbatore, Erode, Salem, Kumbakonam, Trichy and Madurai where there was a huge demand to start franchisee offices as retail investors community is proactive. Also, there were pressures from local high networth individuals demanding patronage. The problem of plenty became an issue in selection of franchisees. As it can be seen from operating statistics out of 320 franchisees on date, only 70 are active. Though there is no financial loss when a franchisee becomes defunct, it certainly leads to certain of opportunity loss. Neighborhood investor community and franchisee operators try to probe into details of defunct franchisee operators. It involves administrative and operational efforts to handle investors and direct them to nearby active franchisee or own office. Further, risk and security team of AdVenture India gets into greater depth of status of investor accounts and dealings so that there are no cases of lapses or frauds using such instances of defunct franchisees. It is important to note here that a defunct franchisee is not a withdrawn franchisee wherein AdVenture India can allocate this territory to someone else to operate. This actually means that the franchisee operator runs the business with less involvement or retail investor community is not adequately responding to the franchisee operator or any other administrative reason that could be holding up the growth.

Perspectives on own branches and franchise operations

AdVenture India probed into details of functioning of the own branches and franchisees. It also wanted to have key learning on defunct franchisee and decide future growth strategy. Some of the points brought out by the study are given below:

Own branches

a. Business development executives understanding of customer and their relationship management are highly satisfactory as perceived by the customers
b. Customers solicit developments through business development executives on research activities of publication team
c. Brand recall is high and visit often web site for more information
d. Able to relate with competition like India Infoline and Angel Broking and demand more information services
e. At the branch level, staff is competitive and enthusiastic about business
f. Branch location and role of branch manager becomes vital in performance of the branch.
g. Branch operations are familiar with targets and are comfortable in enabling growth

Operating Franchisees

a. Franchisee promoter is typically a high net worth Individual and who involves in retail investments in financial markets including that of commodities
b. Franchisee sees this as an opportunity to link up with the local retail investors and look forward to several small and meaningful avenues for pecuniary benefits.
c. Seamlessly integrated with business development team to ensure that all promotions and sales activities covered their territory as well.
d. Franchisee interacted closely with the research and publications team of AdVenture India and shared market intelligence with their customers.
e. Franchisees actively networked with their active customers which typically followed Pareto rule of 20 per cent contributing to 80 per cent of business. Networking meant like speaking at least once in a week with active customers on business and general industry trends and also understanding customer perspectives on savings and investment.
f. Franchisees employed motivated staff who could handle IT and mobile technology processes effectively and could help customers to resolve issues proactively
g. Franchisee staffs also were highly transparent on contract and settlements and enabled tracking of transaction records with explanation and facilitated reconciliation with bank accounts.

Defunct franchisees

a. Most of this set of franchisee operators is who have been in promotion of small savings and have been connected with retail investors. They had seen becoming a sub broker as an avenue of channelizing funds from retail. They lacked full-fledged effort to exploit the potential that commensurate with the opportunity for a new stream of investment provided for retail investor community.
b. Some of them were not able to employ good staff required to promote this business. Compared to traditional businesses in selling non-banking financial services, commodity trading required deeper understanding of trading, markets and technology. Franchisee operators are not keen to investment on training their staff.
c. This set of franchisee promoters did not have strong working relationship with business development executives of AdVenture India. Business development executives felt that hoardings and promotional material given to them are hardly displayed. Also,

franchisee operators are not appreciative of the fact that such promotions could impact the retail investors.

d. Many of the franchisees did not even trade and could not understand nuances of trading business to impact the retail investor community.

e. The volume required for someone to be viable is large. This is about Rs. 2 to 4 crore per day. Many of them were caught in a cobweb where size is low triggering downward spiral effect. Unless, franchisee operator is able to break and push aggressively, operations are unlikely to be viable.

f. Many of this set of franchisee operators believed in fundamental analysis and could not engage meaningfully with prospective retail investors. When a good investor identifies this gap, he either goes with the competition or to any other nearby branch.

g. AdVenture India advertised heavily in local TV News channel in all its business news telecast. It is quite interesting to note here that even in this segment brand recall by retail investors are quite high and are able to relate to the advertisements. This needs to be leveraged.

Performance

There are about 20,000 active customers across its channels namely own and franchisees of   AdVenture India. As of August 2013, the company does about Rs. 400 crores of trade volume on any transaction day. This is approximately one third of volume traded in MCX from Tamil Nadu. Out of the retail volume handled by MCX, AdVenture India does about 1.5 per cent of total volume for MCX. This shows the strength of the brand and there may not be more than three other players in this league.

The company has about 70 employees in its six own branches. AdVenture India has also invested on technology platform. The key to business is synchronized technology platform providing support for customers to trade. The technology team is also adequately staffed and work closely with MCX and Financial Technologies Ltd to ensure that latest developments are incorporated.

As mentioned earlier, the company spends heavily on advertising and promotions.   Like manufacturing companies conducting meetings of suppliers in a common forum, AdVenture India annually conducts two major events inviting operators, active customers and others to knowledge sessions. These are conducted on a holiday in a school auditorium. This event helps for building rapport with business development and knowledge workers of the company with ground level stakeholders and customers. The company invites best in class professionals to address these sessions. Also in parallel workshop and advisory meetings take place. Franchisee operators, staff and customers also get to interact with board members and advisors to the company as part of image building exercise.

Since business requires financial security and huge volatility, such events are more critical for the success of the company.

Related diversification

The company looking at the growth opportunities realised that the best thing it can do is to get more value from retail investors by offering currency trading. AdVenture India launched into currency trading by registering in MCX-SX. This segment is regulated by SEBI and RBI. This cannot be in the same entity as in commodity trading as the regulator

for commodity trading is Forward Markets Commission (FMC). However, license for currency trading can be done through related entity or through subsidiary. All large broking houses are in this market. Some of them are in securities market as well, primarily to take advantage of corporate branding and management bandwidth.

Future plans

The company has been contemplating high growth plans. It expects its marketing strategy to be in place to be a pan India player in both commodities and currency market. It also wants to evaluate whether it could get into institutional business of commodity trading and currency.

The promoter is of the view that India and China would continue to be major emerging economies followed by Russia, South Africa and Brazil. Though there has a pressure in growth and picture looks gloomy in these markets now, in the long term they will still continue to be important. Today, FIIs may be withdrawing from India. There is pessimism in the investment climate. International investment community would continue to look India as a favourable destination as India would be a large consumer base demanding local investments in different sectors. Moreover, the drop in GDP may be driving sceptical thinking. But economy is likely to be in line with international trends especially among emerging economies like Brazil, South Africa and Russia. Hence, AdVenture India will have to look at a long term future and pursue growth plans.

It may be important to note here that the Political system is well evolved and collation politics has come into reality over years. Stability is certainly to be the likely trend. Though inflation is persistent, personal savings and investment are continuing to be pursued by retail investors. Gross domestic savings rate is above 30 per cent and needs consistent channel of financial services. Stock markets, mutual funds and financial services like NBFCs and insurance have demonstrated growth

Commodities markets have evolved. Six electronic multi commodity national exchanges recognised by the Government of India are Multi-commodity Exchange of India Limited (MCX), the National Commodity and Derivatives Exchange Limited (NCDEX), National Multi-commodity Exchange of India Limited (NMCE), Indian   Commodity Exchange   Ltd   (ICEX),   Ahmedabad Commodity Exchange (ACE) and Universal Commodity Exchange (UCX).

There are 22 commodity exchanges recognized by FMC in India. Of which, six are national multi- commodity exchanges. The remaining 16 are regional or localized exchanges spread across India. The national exchanges accounted for 99.7% of the turnover of commodity futures contracts traded in India during FY12-13. Currently over 50 commodity futures are approved by FMC for trading. Growth of the commodity industry in India will depend on economic growth, increase in investor participation, technological advancements and introduction of new commodity classes.

The following table on Growth of Commodities Market in India captures growth of the market since 2008 to 2013. It is reported in MCX that the commodities has achieved a compounded annualized growth rate of 72 per cent in the last decade from 2004. This is a phenomenally high growth rate for anyone to find it attractive.

Table 1: Growth of Indian Commodities market in terms of value of futures traded (INR Trn)

Year	2008	2009	2010	2011	2012	2013
Value Rs Trillion	41	52	78	119	181	170

Source: http://www.mcxindia.com/IR/pdf/Investor_Communique_Q4_2013.pdf

Table 2 gives share of volume traded by different commodities in India. It may be observed from the exhibit that silver, gold, and crude oil and copper contribute about 73 per cent share of total value of trade in commodities market.

Table 2 Percentage Share of different commodities traded in India

Commodity	Silver	Gold	Crude Oil	Copper	Natural gas	Refined soy oil	Lead	Nickel	Zinc	Soya bean	Others
% Share	24	22	18	9	4	4	4	3	3	1	8

Source: http://www.mcxindia.com/IR/pdf/Investor_Communique_Q4_2013.pdf

The company realises the fact that MCX is the leading exchange in India and AdVenture India is one of the strong players in the retail segment. Table 2 below gives share of MCX in Indian commodities market.

Table3: MCX share in the Indian Commodities Market.

Year	2008	2009	2010	2011	2012	2013
Value Rs. Trillion (Industry)	41	52	78	119	181	170
Industry growth rate %	11%	29%	48%	54%	52%	-6%
MCX share as % of industry	77	87	82	82	86	87
MCX share in Rs. Trillion	32	45	64	98	156	148
MCX growth rate		43%	41%	53%	60%	-5%

Source: http://www.mcxindia.com/IR/pdf/Investor_Communique_Q4_2013.pdf

The above table 3 clearly establishes the strength of MCX. AdVenture India has to evaluate the strengths of MCX and do a SWOT analysis to map its marketing strategy.

Future plan

AdVenture India proposes to raise fund for spending on marketing strategy. Of which, brand spend would be one of the key focus areas. Second, AdVenture India looks at "acceleration effect". This would mean growth by region wherein it has to start its own offices or go after using franchisees. Both have challenges and the management has to evaluate the same. Own offices give better control and assures more growth and margins. The pain point is ambit of control and committed expenses and hence operating risk could be higher.

AdVenture India is looking at increasing size of tickets. For which, it has to have strong research and publications team. This is to be considered as part of brand and marketing investment. This would approximately require about Rs. 3 crores per annum.

Pan India operations and dwelling deeper in current market requires team of 24 managers and about 1000 employees across locations. This would mean at least setting up offices in about 85 locations with regional offices across four regions.

The promoter is pondering on how to put together a growth strategy and implement the same by bringing external funding support.

Disclaimer

Hospital Performance and Customer-, Employee- and Enterprise-Directed Practices: Is the Mayo Clinic Reputation Deserved?

Phoebe M. Massimino
City University of New York, USA

Meg L. Joseph
The State University of New York School of Graduate Studies, USA

Richard E. Kopelman
City University of New York, USA

Abstract

Although theoretical frameworks pertinent to hospital performance have been advanced, most research has focused on specific techniques. The present research reviews the Mayo Clinic from the perspective of the Cube One Causal Model. Thus, customer-, employee- and enterprise- directed practices are examined to explain hospital performance. The Mayo Clinic is renowned for health care excellence. Data from multiple sources were examined to test four hypotheses comparing Mayo to the other best 134 hospitals in the U.S. We conclude that the Mayo Clinic excels among the best U.S. Hospitals.

Introduction

Over the past 75 years, numerous theories in the fields of organisational behavior, and management and organisation theory have been advanced to explain organisational performance (e.g., Argyris, 1957; Barnard, 1938; Collins and Porras, 1994; Heskett, Sasser and Wheeler, 2008; Lawler, 1992; Lawrence and Lorsch, 1967; Likert, 1967; Pfeffer, 1998). However, these theories have rarely been applied in the context of health care organisations. Although there is literature on health care administration, relatively few theoretical approaches have been advanced (e.g., Adler, Riley, Kwon, Signer, Lee, and Satrasala, 2003; Hawkins, Glenn, Oswald, and Conway, 2013; Wolper, 2010); rather most research efforts have been highly applied, focusing on improvement via specific techniques (e.g., Ashmos, Huonker, and McDaniel,1998; Freeman, 2002; Minvielle et al., 2008; Veillard, Champagne, Klazinga, Kazandjian, Arah, and Guisset, 2005).

The present research utilizes data drawn from multiple sources to ascertain whether the combination of patient-, employee- and enterprise-directed practices explain hospital performance.

History of the Mayo Clinic

According to Dilling, Swensen, Hoover, Dankbar, Donahoe-Anshus, Murad and Mueller (2013, p.167), the mission of Mayo Clinic is "to inspire hope and contribute to health and well-being by providing the best care to every patient through integrated clinical practice, education and research" (Dilling et al., 2013, p. 167). Please refer to Appendix 1 for the "Mayo Clinic Model of Care" (2014).

Berry and Seltman (2008) provide information about the Mayo reputation as an early study found that Mayo "was considered an important national institution, with the qualities of a

cherished myth. [Standing] as a symbol of what is best in American medicine" (Berry and Seltman, 2008, pp. 7-8). Medical research and education have been important from the beginning as "Mayo thinks of itself as a 'three-shield organization. The central and larger shield in the Mayo Clinic logo represents patient care. But integrally linked to patient care are the complementary shields of medical research and medical education. The tripartite mission was defined by the Mayo brothers—Drs. William and Charles Mayo—who believed that they were better doctors because they had studied and observed other doctors on a 'vacation' each year" (Berry and Seltman, 2008, p. 5).

According to the Mayo Clinic History (2014), Mayo is unique in its origins, "Mayo Clinic developed gradually from the medical practice of a pioneer doctor, Dr. William Worrall Mayo, who settled in Rochester, Minn., in 1863. His dedication to medicine became a family tradition when his sons, Drs. William James Mayo and Charles Horace Mayo, joined his practice in 1883 and 1888, respectively. From the beginning, innovation was their standard and they shared a pioneering zeal for medicine. As the demand for their services increased, they asked other doctors and basic science researchers to join them in the world's first private integrated group practice. Although the Mayo doctors were initially viewed as unconventional for practicing medicine through this teamwork approach, the benefits of a private group practice were undeniable" (Mayo Clinic History, 2014, n.p.).

According to Berry and Seltman (2008), "As with so much else at Mayo Clinic, the values emerged from collaborations. The first and most important was the collaboration among the Drs. Mayo—William Worrall Mayo and his sons William James and Charles Horace—and the sisters of St. Francis of Assisi who built and operated Saint Marys Hospital. The collaboration with the Franciscan community began in 1883 following a devastating and lethal tornado in Rochester, Minnesota. To help manage the seriously injured, Dr. W. W. requested help from the Franciscan sisters who operated a school in town. After the immediate crisis was over, Mother Alfred proposed that the sisters build a hospital in Rochester…eventually Dr. Mayo agreed that he would use the sister's hospital. Saint Marys Hospital opened in 1888. In the collaboration that developed, the Drs. Mayo found the sisters to be partners whose values overlapped with their own. Both the doctors and sisters were focused on the needs of individuals" (Berry and Seltman, 2008, pp. 21-22).

Mayo became a not-for profit organization in 1919 (Berry and Seltman, 2008, p. 98), and as noted by Berry and Seltman (2008), "The Mayos believed that, beyond decent financial security for themselves and their partners, surplus money should be returned to the public in the form of better medicine. This firmly held ethic complemented a similar ethic lived every day at Saint Marys Hospital by the sisters of Saint Francis of Assisi whose vows included poverty. They worked without pay, 12 to 18 hours per day for six or seven days a week serving patients and supporting the Mayo Clinic doctors" (Berry and Seltman, 2008, pp. 97). This partnership with the sisters of Saint Francis of Assisi benefitted Mayo in other ways, "But when the brothers came on the scene in the 1880s, most surgical patient mortality came from infections following 'successful' surgery. Although the brothers were technically gifted surgeons, much of the Mayo's success can be attributed to their early adoption of sterile surgical techniques and the complementary 'cleanliness is next to Godliness' ethic of the Franciscan sisters" (Berry and Seltman, 2008, p.194).

Innovations continued, and in the 1950's, Mayo developed the first intensive care unit in the United States. Mayo expanded geographically beyond Rochester, and "Today the Mayo Clinic operates four hospitals. In addition to Saint Marys Hospital, Mayo also operates Rochester Methodist Hospital, which dates from the 1950s", and "Mayo Clinic

also built its own hospitals in Phoenix and Jacksonville, which opened in 1998 and 2008 respectively" (Berry and Seltman, 2008, p. 115).

Framework and hypothesis

The Cube One Causal Model (see Figure 1) posits that organisational performance is driven by three sets of practices: (1) customer-directed practices which influence the satisfaction and loyalty of revenue providers; (2) employee-directed practices which influence the satisfaction and loyalty of the organisation's internal customers, employees; and (3) enterprise-directed practices which influence the ability of the organisation to attract and retain capital via the efficient use of resources, human and nonhuman.

Figure 1: Schematic of the Cube One Causal Model
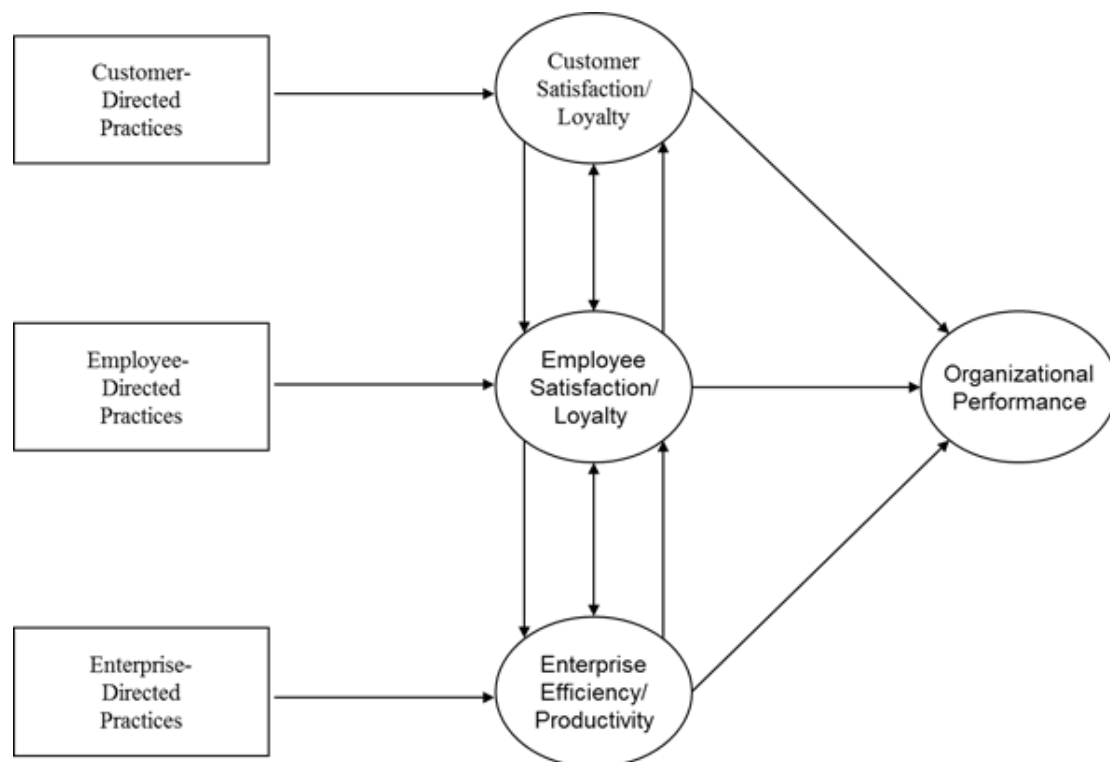
Adapted from Letzler and Kopelman (2008)

Patient-directed practices

Patient-directed practices are those behaviors and procedures which engender patient comfort, satisfaction, and loyalty. Specifically, these practices focus on patients' physical well-being, their interactions with hospital staff, and the environment patients experience within the hospital. The Model theorizes that the frequency and quality of patient-directed practices contributes to overall hospital performance.

Mayo Clinic's fundamental espoused value is that "the needs of the patient come first" (Berry and Seltman, 2008, p. 21). This value has undergirded the organisation's vision and climate from the start. Two of the vision statements at the Mayo Clinic best capture the organization's culture and enacted climate: (1) continually providing a primary and sincere concern for the care and welfare of each individual patient; and (2) continually pursuing excellence in everything that is done (Berry and Seltman, 2008, p. 8).

According to Berry and Seltman (2008), Mayo Clinic has codified its values, culture and expectations in a document called the Mayo Clinic Model of Care. Below are some of the values that reflect Mayo Clinic's culture.

"Patient Care:
- Collegial, cooperative, staff teamwork with true multi-specialty integration
- An unhurried examination with time to listen to the patient
- Physicians taking personal responsibility for directing patient care over time in a partnership with the local physician
- Highest quality patient care provided with compassion and trust
- Respect for the patient, family and the patient's local physician
- Comprehensive evaluation with timely, efficient assessment and treatment
- Availability of the most advanced, innovative diagnostic and therapeutic technology and techniques" (Berry and Seltman, 2008, p. 27).

The Mayo Clinic Model of Care (2014) states, "At Mayo Clinic, we treat a whole person rather than an isolated disease entity. We recognize the additional time it takes to listen to patients and assess their needs in order to make sure that everything possible is done to provide quality care for our patients" (Mayo Clinic Model of Care, 2014, p. 9). Also, "Patients report that the most significant difference between Mayo Clinic and other healthcare centers is that at Mayo Clinic everyone cares about them. Our patients recognize Mayo Clinic as a place of trust where they are treated with dignity and compassion" (Mayo Clinic Model of Care, 2014, p. 10).

See Appendix 2 for three poignant examples of how these values are manifested in patient-directed practices. Accordingly, we posit that Mayo Clinic's patient-directed practices will stand out even among the best U.S. hospitals. That is, Mayo will be significantly above average, among the best hospitals—not necessarily the best.

We therefore posit that:

Hypothesis 1. The level of patient-directed practices enacted at Mayo Clinic exceeds the average level of such practices at the best hospitals in the U.S.

Employee-directed practices

Employee-directed practices are seen as a second necessary condition for successful organisational performance in the Model. Employee-directed practices are those policies and procedures which engender employee satisfaction and loyalty, such as growth opportunities, work/life balance, and shared information. As has been noted widely (e.g., Rosenbluth and Peters, 1992; Sharp, 2009), it is not reasonable to expect that in a service setting employees will treat customers better than they (employees) see themselves as being treated. Also reflective of a concern for employees, Mayo makes a strong effort to sufficiently train and internally promote employees (Berry and Seltman, 2008).

At Mayo Clinic a number of employee-directed practices are implemented with the goal of enhancing employee satisfaction and loyalty. For instance, employees are not pressured to rush the performance of their medical work. As one employee put it, "I could take an hour to do a dressing change carefully after pre-medicating the patient for pain and know that I would be able to complete the painful procedure without being interrupted." Or "I

could spend an hour in a family conference or comfort a dying patient's family because that was not considered frivolous" (Berry and Seltman, 2008, p. 252).

At Mayo, employee-directed practices are implemented with the goal of enacting Mayo's primary value: taking care of the patients' needs (Viggiano, et al., 2007). The environment is designed to support employee performance as included in the Mayo Clinic Model of Care; Highest quality staff mentored in the culture of Mayo and valued for their contributions, Valued professional allied-health staff with a strong work ethic, special expertise and devotion to Mayo, A scholarly environment of research and education, Professional compensation that allows a focus on quality, not quantity, Unique professional dress, decorum and facilities (Berry and Seltman, 2008, p. 27).

There are only a handful of hospitals on Fortune's 2014 list of 100 Best Companies to Work For; Mayo Clinic has been on that list for eleven consecutive years (Mayo Clinic, 2014, n.p.). Likewise, for the past three years, DiversityInc (2014) has listed Mayo as one of the top 10 with regard to diversity in the Hospitals and Health Systems Category. Mayo has a Diversity Council, tracks Diversity statistics, engages in formal succession planning and mentoring for women, Blacks, Latinos and Asians, (DiversityInc, 2014, n.p.).

From the beginning, Mayo found that patients' needs are best met via employee teamwork and empowered decision-making. Berry and Seltman (2008) state, "Empowerment is most important when any employee observes a patient in trouble, a patient whose medical condition appears to be deteriorating…..Plus-One refers to the expectation that any one person can consult an additional person up the chain of command to get what is needed for a patient" (Berry and Seltman, 2008, p. 33). Also, "Teamwork cannot be sustained without mutual respect, for teamwork depends on trust, listening, inclusion, teammate contribution and fair treatment—the attributes of respect" (Berry and Seltman, 2008, p. 58). Also, "The Clinic ardently searches for team players in its hiring and then facilitates their collaboration through substantial investments in communications technology and facilities design…Further encouraging collaboration is an all-salary compensation system with no incentive payments based on the numbers of patients seen or procedures performed" (Berry and Seltman, 2008, p. 52). In light of these practices, we advance the following proposition:

Hypothesis 2. Employee satisfaction at Mayo Clinic exceeds average levels of employee satisfaction at the best hospitals in the U.S.

Enterprise-directed practices
Enterprise-directed practices in the Model encompass a wide variety of actions undertaken to increase efficiency with regard to all resources. Such practices range from those focused on improving employee motivation and ability, to those that emphasize the more efficient use of capital and technology.

Berry and Seltman (2008) write of the Mayo philosophy regarding technology, "Technology designed strictly to save money usually results in an excessive waste of money and a mountain of heartache. All technology should solve real problems in the context of an organization's core values and strategy. Mayo Clinic has benefited enormously and durably from major technological investments. These investments have in common their direct link to the Clinic's core values and strategies…Saving money through technology has frequently been the result, but rarely, if ever, the goal" (Berry and Seltman, 2008, p. 90).

At Mayo Clinic a number of enterprise-directed practices are employed to not only enhance efficiency but also better meet patient needs. Berry and Seltman (2008, p. 224) cite numerous examples of employees undertaking evidence-based studies in their own domains in order to improve internal benchmarks. Almost from the beginning, Mayo utilized innovative information technology, from creating integrated medical records and a mechanical system to transport them to implementing a centralized patient scheduling and appointment system. Working with supply chain managers, orthopedic surgeons turned a $2 million annual loss on knee- and hip-joint replacements into a $6 million annual profit in two years without compromising patient outcomes. At the administrative level, Mayo follows a "one-bucket philosophy of resource allocation" (Berry and Seltman, 2008, p. 260), by which resources are allocated according to mission priorities and not by the revenue generated in each department.

According to the Mayo Clinic Model of Care (2014), "One of Mayo Clinic's strengths is our simultaneous, efficient evaluation process. Although some patients needs require that we address a single subspecialty problem rather than have every medical problem addressed, we have the capability of bringing together a team of physicians and allied health staff to address different problems in the same patient during the same encounter. This capability, together with our highly efficient laboratory and radiology services gives us the unique ability to complete an episode of care in a short period of time. In many cases, we can offer complex evaluation and testing followed by next-day surgery — a capability that is appreciated by patients who travel long distances to seek healthcare at Mayo Clinic" (Mayo Clinic Model of Care, 2014, p. 11). Likewise, Berry and Seltman (2008) write, "Destination medicine provides an integrated system of comprehensive care that addresses the patient's medical problem(s) in an efficient, time-condensed manner. The practice of destination medicine enables patients and families traveling from long distances as well as nearby patients to receive medical care comprehensively and expeditiously" (Berry and Seltman, 2008, pp. 69-70).

Saver (2013, p. 4), in an article about vendor and supply chain management for hospitals, notes that "At the Mayo Clinic, the vendor may be permanently barred from the facility if a problem is left unresolved…We will bar suppliers if we suspect their behavior or skills aren't in the best interest of our patients".

Dilling et al. (2013), note that, "The Mayo Clinic Value Creation System is a coherent system engineering approach to delivering a single high-value practice to meet the needs of the patient. This methodology consists of four tightly linked phases—alignment, discovery, managed diffusion, and measurement" (Dilling et al., 2013, p. 167). Also, "Infrastructure/systems support is necessary to ensure that the 'right thing to do' is the 'easy thing to do'" (Dilling et al., 2013, p. 169). In addition, "All Mayo Clinic sites now have fully functional electronic medical records in place with the ability to readily share patient information. Current efforts are focused on expanding functionality, consolidating departmental systems, creating order sets, and developing rules/alerts to assist the practice" (Dilling et al., 2013, p. 169).

Dilling et al. (2013) note that, "[T]he metrics of success typically occur at multiple levels, such as the percentage of staff educated on the best practice, compliance with process measures where appropriate, and tracking outcomes to determine if the best practices are improving the ultimate care of patients. We have also found it beneficial to routinely track

financial impacts to reinforce the finding that improved quality can in fact reduce costs" (Dilling et al., 2013, p. 171).

The improvements in technology also improved patient satisfaction, as Berry and Seltman (2008) state, "High levels of service satisfaction result in part from the strategic investment of millions of dollars each year in industrial engineering to create the processes and infrastructure that facilitate clinical quality and safety as well as the efficient delivery of care" (Berry and Seltman, 2008, p. 76). Hence, we hypothesize that:

Hypothesis 3. Outcomes of enterprise-directed practices enacted at the Mayo Clinic exceed the average level of such practices at the best hospitals in the U.S.

The Cube One Causal Model:
According to the Cube One Causal Model, three sets of practices (patient-, employee-, and enterprise-directed) in concert determine organisational performance. It follows, therefore, that the combined effects of these practices will be strongly associated with organisational performance.

Hypothesis 4. Combined levels of patient-directed, employee-directed, and enterprise-directed practices enacted at Mayo Clinic exceed the average levels of such composite practices at the best hospitals in the U.S.

Methods

Procedure

The sample of hospitals (n = 136) was comprised of all hospitals listed in one or more of the twelve major specialty areas in the "U.S. News & World Report Best Hospitals", 2013. If a hospital was listed in more than one major specialty area, we computed the mean score. The 12 specialties are: Cancer; Cardiology; Diabetes; Ear, Nose and Throat; Gastroenterology; Geriatrics; Gynecology; Nephrology; Neurology; Orthopedics; Pulmonology; and Urology.

In total, the "U.S. News & World Report Best Hospitals" compiles data on sixteen specialties; however, hospital rankings in four specialties "are ranked solely based on their reputation among specialists" (Comarow, 2012, p. 86). Due to the lack of any hard data (e.g., survival rates, or safety), we excluded them from our analysis.

In the present study, the summary U.S. News score is captured for each of the top 50 hospitals in each of the 12 major specialties. Mean scores were calculated for hospitals that were ranked in one or more specialties. As a result, our sample is 136 hospitals and the composite mean measure is the dependent variable for the study.

Measures

Independent variables. In terms of the Cube One Causal Model, the independent variables are: patient satisfaction (to reflect patient-directed practices); employee satisfaction (to reflect employee-directed practices); and financial and efficiency metrics (to reflect enterprise-directed practices).

Patient satisfaction data were obtained from the U.S. Department of Health and Human Services' Centers for Medicare and Medicaid Services (CMS). According to the CMS website (www.cms.gov/medicare), "the HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) Survey, also known as the CAHPS® Hospital Survey or Hospital CAHPS®, is a standardized survey instrument and data collection methodology that has been in use since 2006 to measure patients' perspectives of hospital care." Hospital-level survey results for ten of the patient survey questions are publicly reported on the Hospital Compare website (http://www.hospitalcompare.hhs.gov). CMS also publishes national and state averages for these ten questions. For the present study, we obtained three measures. Two are questions from the study: (1) patients who gave their hospital a rating of "9 or 10" on a scale from 0 (lowest) to 10 (highest), and (2) patients who reported they would definitely recommend the hospital. This second metric corresponds closely to what Reichheld (2006) in The Ultimate Question found to be the best predictor of customer loyalty—far greater than customer satisfaction. In addition, we calculated a summary measure as the average of all 10 published questions. This also corresponds with Rudawska's (2009, p. 6) study regarding measuring the quality of professional services which states that the starting point of the analysis is an "evaluation of the customer's satisfaction from the experienced service". The overall sample size in our study for patient-directed variables is 127 hospitals.

Employee satisfaction data obtained from Glassdoor.com are two-fold. First, respondents provided an overall rating on a 5-point scale with endpoints of very satisfied and very dissatisfied. Using Glassdoor.com's five-point scale, we generated an overall weighted average score for the best "non-Mayo" hospitals. Likewise, we obtained the percentage of employees who "would recommend this company to a friend" for each hospital. We collected Glassdoor.com data from 122 hospitals, 82 of which had six or more reviews during the data collection period (September 2012 – January 2013).

We assessed hospital efficiency using four metrics: three generated from on-line data in the American Hospital Directory (AHD) database and one from CMS. For the first metric, we use profit margin to reflect overall efficiency. A second metric is the Medicare ratio from CMS (www.cms.gov/medicare) which compares "whether Medicare spends more, less or about the same per Medicare patient treated in a specific hospital, compared to how much Medicare spends per patient nationally." The third metric is the average occupancy rate for each hospital, calculated as the ratio of total patient days to total staffed beds during the course of one year, and the fourth is the average length of stay, calculated as the ratio of total patient days to total patient discharges. Since these data are not available for every hospital in our study, we have slightly different sample sizes for each metric: profit margin (134 hospitals), average occupancy rate (135 hospitals), average length of stay (135 hospitals), and the Medicare ratio (124 hospitals).

Dependent variable. The source of hospital performance data is the U.S. News & World Report scores for the 12 primary medical specialties. To avoid the multiple arbitrary weightings used by U.S. News & World Report (e.g., scoring two points for being in the top 10, one point for being in the next 10, and zero points for the next 30 hospitals), we average hospital rating scores across specialties. The ultimate source of the scores, however, reflect a relatively nontransparent ("proprietary") formulation which consists of the following major components and weights: reputation (32.5%), survival score (32.5%), patient safety (5%) and overall structure (30%). The structure score is comprised of 11 different sub-criteria across the 12 specialty areas, the most common of which are whether

the hospital is considered a nurse magnet hospital, nurse staffing scores, patient services and patient volume, and whether the hospital is using advanced technology.

Analyses

To answer the research question, "Is the reputation of the Mayo Clinic deserved?" we performed t-tests between Mayo Clinic averages and non-Mayo hospital averages in the sample of the 136 best hospitals. We included data from all four Mayo hospitals. CMS and AHD report separate data for each Mayo Rochester Hospital (Mayo Clinic Methodist Hospital and St. Marys Hospital). U.S. News and Glassdoor report one score for "Mayo Rochester". As per the Mayo Clinic website, "Mayo Clinic, Saint Marys Hospital and Rochester Methodist Hospital form an integrated medical center dedicated to providing comprehensive diagnosis and treatment in virtually every medical and surgical specialty" (www.mayoclinic.org). The Mayo Jacksonville (Florida) and Phoenix (Arizona) sites are the other two hospitals included in the Mayo vs. non-Mayo analyses. The weighted average of the four Mayo hospitals was compared to the other "best hospitals" in the study and to national averages wherever the latter data were available.

For comparisons of patient satisfaction, the patient is treated as the unit of analysis; given the CMS methodology, this yielded a minimum of 300 patient surveys per hospital. We calculated the number of respondents based on the four Mayo hospitals, 125 non-Mayo hospitals, and 3,851 hospitals nationally.

With regard to the two employee satisfaction metrics, again the employee is treated as the unit of analysis. For the overall average measure of satisfaction, we compare all Mayo employee responses to all non-Mayo employee responses. There are 72 Mayo respondents and 2,482 non-Mayo respondents. Likewise, for the percentage of respondents who would recommend the company to a friend, there are 72 Mayo respondents, and 2,284 non-Mayo respondents, since 198 non-Mayo respondents did not answer the recommendation question. There are no national hospital averages for these measures.

The four measures of enterprise efficiency are calculated in the following ways. The hospital is the unit of analysis for the Medicare ratio. Here we compare the four "Mayo" hospitals to the 122 non-Mayo hospitals for which data are available. By definition, 1.00 is the national average of the Medicare ratio. Regarding AHD data, revenues, expenses, patient days, and other metrics across the Mayo hospitals and across the non-Mayo hospitals were used to calculate overall averages.

For the dependent variable, the scores for the "Mayo" hospitals were compared to the averages of the other "Best Hospitals". There are 14 Mayo scores and 589 non-Mayo scores among the 12 specialties. The total is 603 scores, because if two hospitals tied for 50th place, both hospitals are listed in the U.S. News ranking. There is no national average for hospitals.

Results

Table 1 - Test of means and proportions: Mayo Clinic vs. other U.S. hospitals

Variable	Mayo Hospitals Mean	Best 134 Hospitals Mean	z-score	All U.S. Hospitals[d] Mean	z-score
Patient satisfaction	0.77	0.70	5.12***	0.71	5.07***
Patient would definitely recommend	0.86	0.78	7.12***	0.70	12.29***
Patient rating: 9 or 10	0.84	0.72	8.61***	0.68	11.52***
Employee satisfaction[a]	3.46	3.42	.28ns	n/a	n/a
Employee would recommend	0.68	0.73	1.02ns	n/a	n/a
Profit margin	0.07	0.03	1.38ns	n/a	n/a
Average occupancy rate	0.67	0.77	4.12***	0.56	4.02***
Medicare ratio[b]	0.95	1.00	3.78***	1.00	n/a[e]
Length of stay[c]	4.99	5.81	5.71***	5.43	3.44***
Hospital performance	89.31	69.27	7.26***	n/a	n/a

All mean units of measurement are percentages with the exception of: [a] 5-point Likert scale, [b] proportion, [c] number of days,
[d] n = 5,008, [e] There is no estimate of variance for all U.S. hospitals, but the difference and sample size are greater than the non-Mayo sample. n/a = data not available.
*** $p < .001$; ns = not significant

Patient-directed practices

Hypothesis 1, which predicted higher levels of patient satisfaction at Mayo compared to the 134 other best hospitals, was supported. Using the same three satisfaction measures, mean satisfaction scores for Mayo and the 134 best were 77.3% versus 70.4% (Z = 5.12, p < .001); 83.5% versus 72.2% (Z = 8.61; p < .001); and 86.3% versus 78.2% (Z = 7.12, p < .001).

Differences in patient satisfaction scores for Mayo patients vs. the national average were significant for all three measures of patient satisfaction (p < .001): the average CMS average score (77.3% vs. 70.7%, Z = 5.07, p < .001), whether the patient would recommend the hospital (83.5% vs. 68.0%, Z = 11.52, p < .001), and the proportion of patients rating the hospital a 9 or 10 (86.3% vs. 70.0%, Z = 12.29, p < .001).

Employee-directed practices

The difference between employee satisfaction scores for Mayo employees vs. all non-Mayo employees is not significant (mean satisfaction scores being 3.46 for Mayo employees and 3.42 for non-Mayo employees, respectively). The measure of whether the employee would recommend the company to a friend for Mayo vs. non-Mayo employees (67.9% vs. 73.3%), is not significant and opposite to the predicted direction.

Enterprise-directed practices

Partial support was found for Hypothesis 3, as the difference in the profit margins of Mayo (6.77%) and non-Mayo best hospitals (2.89%) although sizable (more than twice as high) only approached significance (p < .08). It is notable that the hospital with the highest profit margin (14.8%) in the study is Mayo Methodist Hospital. Differences in measures of average occupancy rate, Medicare ratio and average length of stay are significant. The average occupancy rate of Mayo vs. non-Mayo (66.50% vs. 77.43%) is significant (Z = 4.12, p < .001), but in the opposite direction. The Medicare ratio (in which the lower number is better) for Mayo vs. non-Mayo (.95 vs. 1.00) is significant (Z = 3.78, p < .001). The average length of stay, for which the lower number is better, for Mayo vs. non-Mayo (4.99 days vs. 5.81 days) is significant (Z = 5.71, p < .001).

Regarding national averages, differences in measures of average occupancy rate and average length of stay are significant. The average occupancy rate of Mayo vs. the national average (66.50% vs. 56.41%) is significant (Z = 4.02, p < .001). The Medicare ratio (in which the lower number is better) for Mayo vs. the national average does not have a significance level due to the lack of a national estimate of variance. However, note that the difference between Mayo (.95) and the national average (which is by definition 1.00) reflects a larger sample size (3,841 hospitals). The average length of stay, for which the lower number is better, for Mayo vs. the national average (4.99 days vs. 5.43 days) is significant (Z = 3.44, p < .001).

The Cube One Causal Model in its entirety

Hypothesis 4 posited that the composite scores on the independent variables would be higher at Mayo compared to the non-Mayo 134 best hospitals. Average scores were 89.31 for Mayo and 69.27 for non-Mayo, a result that was sizable and significant (Z = 7.26, p < .001).

Discussion and Conclusion

As previously noted, the Cube One Causal Model posits that organisational performance is driven by three sets of practices: (1) customer-directed practices which influence the satisfaction and loyalty of revenue providers; (2) employee-directed practices which influence the satisfaction and loyalty of the organisation's internal customers, employees, who convert inputs to outputs; and (3) enterprise-directed practices which influence the ability of the organisation to attract and retain capital via the efficient use of resources, human and nonhuman. This is in line with Babic-Hodovic, Mehic and Arslanagic's (2012) assertion that the three core principles of quality management are employee management, process orientation and customer orientation.

The present research study investigated the application of the Cube One Causal Model to hospital performance using data from four different sources. Obtaining data from multiple sources mitigates against common method variance problems.

Hospitals are unique in the service industry because the nature of their business can have life or death consequences. It is an environment where mistakes often cannot be undone, and where "customers" requiring a needed "service" often feel vulnerable, frightened, in physical and emotional pain, and uncertain of their future. Hospitals must satisfy divergent stakeholders such as patients, the patient's families, employees, government agencies,

insurance companies, their administration and board of directors, and the community at large. In an environment such as this, management practices toward customers (patients), employees and the organisation itself are crucial to the success of hospitals and all who depend on them.

The overall patient satisfaction score includes ratings on whether doctors and nurses communicated well with them, whether help was available when needed, and whether their room and bathroom were clean. Clearly, these are patient-directed practices. The U.S. News score does not presently include CMS data in their ratings. However, since the U.S. News score is a composite of reputation, patient outcomes, patient safety, and structure (including the use of advanced technology and patient services), it is reasonable to deduce that patient-directed practices contribute to the U.S. News score on hospital performance.

Glassdoor.com data are not a random sample of current and former employees and may potentially reflect sample bias. Further, due to the small number of respondents in many cases, there is a substantial threat of sampling error. The sample of employee satisfaction scores from Mayo totaled 72 responses. These were drawn from an organisation with thousands of current employees—and many thousands of former employees who were eligible to respond. Unfortunately, Glassdoor.com sample sizes were small for most hospitals with only about one-half of the best non-Mayo hospitals meeting our requirement of a minimum of six ratings. Indeed, this requirement reduced the sample of hospitals in these analyses from 136 to 82. In addition, since employees self-select to contribute, the sample may not be random or representative. In contrast, both the patient data, and the enterprise data originated from government studies that collected information from tens of thousands of patients and thousands of hospitals in a systematic, comprehensive way. Clearly, future research should assess employee satisfaction in a more systematic manner.

Productivity is improved by either increasing outputs using the same resources, or, by maintaining the same level of output while utilizing fewer resources. Decreasing resources that lead to increased wait times—what might be characterized as "cost savings productivity"—will often decrease patient satisfaction. However, a decrease in resources resulting from process improvements—what might be labeled "client-focused productivity"—holds the potential for both enhanced efficiency and patient satisfaction. Hospitals which conserve resources while effectively serving patients may in the long run be more effective than hospitals which cut back on patient care to save money. Mayo has a history of improving efficiency which benefits both the patients and the hospital.

Finally, regarding the Mayo Clinic analyses, Mayo had significantly higher scores for patient satisfaction, and the efficiency measures of the Medicare ratio, and average length of stay. Mayo patients appear to cost less, stay in the hospital for a shorter period of time, and are more satisfied than patients compared to patient averages of the other "best hospitals." Although there were no significant differences in employee satisfaction, this may be due to the measurement issues discussed previously with regard to the Glassdoor.com data. And finally, what of the U.S. News score? This study calculated the U.S. News mean score by specialty avoiding the arbitrary cutoffs employed by the U.S. News honor roll ranking. Notwithstanding the arbitrariness and lack of transparency of the U.S. News & World Report hospital rating data, reasonably strong support was found for most of the hypotheses examined in the present research.

With regard to our initial question, is the reputation of Mayo Clinic deserved, our answer is yes.

It might be noted, once again, that our claim is that Mayo is significantly above average in comparison to the best U.S. hospitals. We do not claim that Mayo is the single best hospital in the U.S.

In conclusion, the Cube One Causal Model provides guidance for improving management practices for the betterment of an organisation, its customers and employees. This framework is relevant to explaining and managing healthcare organisations.

TEACHING NOTES
LEARNING OBJECTIVES
1. To have knowledge of and be able to apply the Cube One Causal Model to answer the question "Is the Mayo Clinic reputation deserved?"
2. To learn about practices implemented at a world-renowned organization.

QUESTIONS
1. How is the Mayo Clinic viewed in the US?
2. What is the primary mission of the Mayo Clinic?
3. Given that the primary mission of Mayo is patient care, what are some of the practices that illustrate its Mission of Care?
4. Which of the three vignettes is the most poignant?
5. How does Mayo cultivate such conscientiousness and patient-devoted employees?
6. What does the evidence indicate with respect to patient satisfaction (Table 1)
7. What employee-directed practices does Mayo Clinic employ?
8. What does the evidence indicate with respect to employee satisfaction?
9. What enterprise-directed, efficiency and profitability-related practices are implemented at Mayo Clinic?
10. What does the evidence indicate with respect to profitability? (Table 1 and 2)

TEACHING METHOD
1. Distribute or provide access to a copy of the case   7 days before class
2. Discussion of the Cube One Causal Model   10 minutes
3. Discussion of the above-listed questions   40 minutes
4. Wrap up regarding Mayo Clinic in particular, and the   10 minutes
   utility of the Cube One Casual Model for analysing
   organizational performance, in general

Table 2 - Financial and Volume Data for Mayo Clinic

Category	Inclusive of the Four Mayo Hospitals
Total Revenue*	$4,482,926,055
Imputed Total Costs*	$4,179,545,427
Net income (or loss)*	$303,380,628
Margin (income/total revenue)*	6.8%
Total Staffed Beds (inpatient)*	1,623
Total Discharges (inpatient)*	79,245
Total Patient Days (inpatient)*	393,947
Average Occupancy Rate*	66.5%
Average Length of Stay (in days)*	4.99
Inpatient Surgeries**	62,391
Outpatient Surgeries**	34,412
Emergency Room Visits**	132,796
Staff physicians and scientists***	4,158
Residents, fellows and students***	3,155

*American Hospital Directory, Inc. (n.d.) *Free hospital profiles* [data file].

** "U.S. News & World Report Best Hospitals" (2014) http://health.usnews.com/best-hospitals/area/

***http://www.mayoclinic.org/about-mayo-clinic/facts-statistics

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APPENDIX 1
Mayo Clinic Model of Care
Mayo Foundation
2014 Mayo Foundation for Medical Education and Research
http://www.mayo.edu/pmts/mc4200-mc4299/mc4270.pdf
"Mission
Mayo will provide the best care to every patient every day through integrated clinical practice, education and research.

Primary Value
The needs of the patient come first.

Core Principles

Practice
Practice medicine as an integrated team of compassionate, multi-disciplinary physicians, scientists and allied-health professionals who are focused on the needs of patients from our communities, regions, the nation and the world.

Education
Educate physicians, scientists and allied-health professionals and be a dependable source of health information for our patients and the public.

Research
Conduct basic and clinical research programs to improve patient care and to benefit society.

Mutual respect
Treat everyone in our diverse community with respect and dignity.

Commitment to quality
Continuously improve all processes that support patient care, education and research.

Work atmosphere
Foster teamwork, personal responsibility, integrity, innovation, trust and communication within the context of a physician-led institution" (2014 Mayo Foundation for Medical Education and Research, p. 20).

APPENDIX 2
Examples of Patient-Directed Work Behaviors at Mayo Clinic

Management Lessons from Mayo Clinic
By Leonard L. Berry and Kent D. Seltman
McGraw-Hill, 2008

Three verbatim vignettes

Hello Dr. Decker,

I'm remiss is not sending you this e-mail earlier, but I wanted to recount an experience I had in the Emergency Room about three months ago with Dr. Luis Haro. I want to share firsthand with you what an extraordinary physician he is.

I live with my mother who is 91 and has fairly severe dementia. About three months ago, I came home to find her outside on the lawn. She had fallen, was unable to get up, and had a nasty bruise and scrape on her elbow. She is a tiny woman so I managed to get her up and we headed for the Emergency Room. Once there, we were seen quickly and everyone was very solicitous of her. She's also almost deaf so sometimes this is no easy task.

Dr. Haro introduced himself and was very patient and kind—and spoke with enough volume so she could hear him. As he examined her, he asked her to stand up and take a few steps. As she began to do so, she bumped into him. My mother in her day was quite a wit and some of that has remained. She looked up at him after bumping against him and said, "Well, I suppose we could waltz." And he replied, "Yes, we could." He then proceeded to take her in his arms and waltz a few steps around the cubicle. My mother was absolutely enchanted as she loves to dance and I started to cry. The sight of this tiny fragile old woman being waltzed around the room by this most handsome young man was just too much. I don't think I've ever been prouder to be a Mayo employee than that night. To witness that interaction and know this is the caliber of doctor we have here, someone whose medical expertise is a given but whose compassion and kindness—and humanness—are extraordinary was very moving.

I know in the grand scheme of Emergency Medicine this scenario has little significance. My mother had a bad bruise and a scrape but really was just fine. Her physical symptoms healed in a day or two but the "healing" that occurred that evening with his interaction with her is really what sets Mayo apart and will last in my memory forever.

Writing as a patient's family member, I want to tell you that your department and Mayo are very, very lucky to have Dr. Haro as a member of Staff (pp. 173-174).

I was called to the transfusion lab in the middle of night to look at a cross match before we could go ahead with kidney transplant. As I left the lab, I noticed one of the techs was working. As it was then about 2:00 a.m., I decided that I'd talk to her later. The following morning I brought her into my office and asked, "What were you doing in the lab at two in the morning? You weren't working on kidney. I know, because I was there." This young, blonde, blue-eyed, Minnesotan turned bright red, acutely embarrassed, and said to me, "Dr. Moore I was hoping you wouldn't see me." My heart sank when she said that. I

thought, oh my God, what has she done? She continued, "I was doing the platelet antibody test during the day, and I accidentally used a solution of the wrong molarity and lost all the platelets. So by the end of the day when I read the tests on all the patients, it was a bust—and I knew it was a bust—I couldn't read it. So I was back doing the test again."

I replied, "That's really wonderful of you, but you probably could have done it today without having to come back last night in the middle of a January blizzard." She said, "Dr. Moore, I can't have the patients at Mayo Clinic waiting an extra day in the hospital because I fouled up a lab test."

My jaw hit the floor at this point, so I said, "Well, that is very laudable. Make sure you put in for your overtime." She looked at me as if I had told her to rob the poor box in the church. She replied with a certain outrage, "Dr. Moore, I can't have Mayo paying me for my mistakes!"

I sat there thinking I don't believe I'm hearing this. This particular technologist was a hard-working young woman, a wonderful technologist, but in a way that was ordinary in our lab. Her attitude, her work ethic, her sense of ethics was such that this is just how she behaved. She was appalled that I would suggest that she be paid for her overtime at two in the morning. Employees like this are what make Mayo great (pp. 185-186).

Working in critical care, we often deal with death and dying. It is how our team approached this particular death that represents the ultimate team effort.

Mr. M had recently received a terminal diagnosis, and he and his wife of more than 50 years were struggling with the decision of further aggressive treatment versus palliative care. At Mayo, we function as a team with ease even in the most difficult situations. All the appropriate team members did their part to assist this couple during a very difficult time. Nursing continued to give excellent bedside care. The case manager and social worker spent time with Mr. and Mrs. M detailing options for both hospice and acute care while helping them attend to any personal matters and possible impending arrangements. A family conference was provided at the bedside to allow for Mr. M to participate in the decision making. Physicians, a social worker, a case manager, the chaplain, and nursing were present. Although Mr. M was ready to make the decision to end aggressive treatment, Mrs. M could not accept the end war was near. Treatment continued and everything was done to prolong Mr. M's life. The chaplain prayed with the family and told Mr. and Mrs. M to call at any time if they needed him.

This is where the real teamwork begins. W, the young nurse caring for Mr. M, had never cared for a patient who was so close to death. I, being an experienced 20-year veteran, let her know I was there for her during this difficult time if she needed me. W was both thankful and relieved. Mr. M was becoming more critical as the day went by and Mrs. M was realizing how much he was suffering. At approximately 4:00 p.m. that afternoon, Mrs. M called W into the room and asked that her husband be made comfortable and be allowed to pass on in peace. W notified the physician and asked me if I could come into the room when Mr. M's passing was imminent.

An hour later, all the appropriate paperwork (do not resuscitate order) was signed allowing for comfort measures and for Mr. M to die peacefully when his time came. Mrs. M was at his side with both W and me nearby to offer support. The other nurse on our pod continued to care for my patients, so I could help W help this couple say goodbye. I consider myself quite skilled and compassionate when it comes to death, but on this day I became the student and watched and learned.

At 6:00 p.m., Mrs. M requested the chaplain be called to pray with her as her husband became less responsive and closer to his death. I instructed W on how to page the chaplain only to find out he was on another pod with another family who was in a similar situation. He said he would be with us in about 20 minutes. Mr. M did not have 20 minutes. Mrs. M was crying and requesting the chaplain so a prayer could be said while her husband passed on. It was very clear Mr. M would not live another 20 minutes. I grabbed the tissues and prepared to comfort Mrs. M and show W the best compassion I had. When I entered the room, I saw W, who was of a different faith, take Mrs. M's hand in one hand and Mr. M's hand in the other and begin to pray. She asked the Lord to bless their 50-year marriage using their first names (I am not sure I would have been able to recall their first names that quickly). Her voice was strong, clear, and sweet and did not waver as she recited the Lord's Prayer while Mr. M took his last breath.

I stood by the entrance to the room and sobbed. My emotions were mixed. Both sadness for Mrs. M's loss and joy that we, the team, provided what the patient needed. W was the ultimate team player. She assumed another's role, making our system flawless when it mattered most (pp. 264-265).

Gaps for interactive upgrading of existing marketing models

Hrvoje Medarac
European Commission- Joint Research Centre, Italy

Gianpaolo Vignali
The University of Manchester, UK

Claudio Vignali
The University of Vitez, Bosnia and Herzegovina

Abstract

The purpose of this preparatory research was to identify gaps for logical upgrading of the existing marketing models which can keep them simple and interactive and to examine whether the action research and case study would be the proper research methods to reach the aim of the main research which is to improve the relation between business strategy and marketing tactics. Chosen research methodology was phenomenology and the secondary research in the form of the literature review was recognized as the most appropriate research method. Main findings of the research were that there was the gap for logical upgrading of the existing marketing models which would make them simple and interactive. Main practical implication of this research is the identification of fields where there is the possibility to extend the knowledge in the field of marketing modelling. The value of this research lays in propositions for further development of marketing model called Stratics which would contribute to the overall knowledge in the field of business strategy and marketing tactics and the most appropriate research method to achieve this aim. This research was performed as a part of the literature review process of PhD research.

Introduction

The aim to improve the market position on competitive market is one of the reasons why many practitioners and academics are using the existing marketing models and trying to improve them. During the process of defining business strategy, top management of the company usually considers and analyses a range of management models and frameworks, such as product portfolio, BCG Matrix, Ansoff Matrix, GE/McKinsey Matrix, Porter's Five Force Model and SWOT analysis. Based on defined strategy, marketing management has to prepare the marketing tactics and one of the tools which can be used in this case is the marketing mix.

Since two different levels of management cope with business strategy and marketing tactics, it is not rare to witness that business strategy and marketing tactics, especially on local market do not follow each other. In order to cope with this issue, a live Stratics model was developed for coordination of marketing tactics with business strategy. During the research process, the literature review was undertaken and this part of the research process is the main subject of this article. Primary research which followed was conducted as the action research and the case study on one Croatian company. The Stratics model was developed as the simulation mathematical model which was based on the Mixmap model developed by Vignali and Davies (1994), but is more detailed and brought to a higher and more applicable level with the usage of artificial intelligence methods.

Approach

The objective of this research was to to find out more about marketing strategy and tactics models which have already been developed and based on this objective Medarac (2014) proposed the research question:

- Is there a gap for logical upgrading of the existing marketing models which can keep them simple and interactive?

In order to answer this research question, a secondary data analysis was made during the literature review process. Many authors discuss on methodological approach and some of them like Buttery and Buttery (1991), Bonet and Sauquet (2010), French (2009), Nørreklit et al. (2010) or Yin (1994), describe similarities and differences between positivistic and phenomenological approach. Since this research deals with the phenomenon that the differences between the business strategy and marketing tactics are not rare and the aim is to identify the phenomena which could help to upgrade the existing marketing models, the research methodology which was recognized as the most appropriate in this research was the phenomenology.

Scientific and innovation relevance

The main scientific relevance of this research was the identification of gaps based on which the Stratics model was supposed to be developed:

- the model should be interactive;
- the model should calculate the resulting position of the company according to proposed business strategy and marketing tactics of the company;
- there is the need to introduce importancy levels as the weighting factors for all variables in order to increase the precision of the model;
- artificial intelligence methods should be implemented in order to allow the Stratics model to suggest the measures which should be taken to reach business strategy goals through an appropriate application of marketing tactics;
- if necessary, the GE/McKinsey matrix should be included in the process.

Research Details

The main research process began in 2005 after the researcher got more information on the Mixmap model (Vignali and Davies, 1994) and decided to make it interactive and improve it. The development and improvement of the Stratics model continued as a part of the PhD research process which lasted until 2013 and during this process the literature review part of the research was also made. Main purpose of the literature review was to identify the existing marketing models which help in improvement of business strategy and marketing tactics. The literature review has been focused on two main areas where the first one was the strategy and tactics and the second one was the model building.

Kennedy (1989, 5) considers that in order to reach the goals of the company the answer to the following question has to be clear: "Why should I, your prospective customer, choose you vs. any and every other alternative available to me?" This question is very important for understanding the strategy of the company as it is directly related to satisfaction of buyer's needs and if these needs are not satisfied better than by competitors, buyers will not buy company's products.

Strategy and Tactics

Thompson et al. (2005) consider that the strategy has to help in offering products or services which are different to the offer of competitors, or developing competitive abilities with which the competitors will have problems to cope. Anderson and Kerr (2002) say that the strategy is a large-scale plan for achieving a goal and mention its military origin. Gulin et al. (2004) consider strategic management in relation to long-term goals of the company. These long-term goals are evident from the vision as one of key elements of business strategy. The vision is strategic element which speaks about the overall future aim of the main decision maker in the company whether this is the top management or the owner who holds the top management power. On the other hand, the mission is more present-related and describes the main purpose of the company. For Bebek and Kolumbić (2005), the vision presents all that the organisation should be, while the mission defines the sense and purpose of the organization. Although the vision and the mission represent the main course of leading the company, Johnston and Bate (2003) consider the strategy as a dynamic process which has to be constantly adjusted for the purpose of reaching the goals. Walker (2004) says that an effective strategy is a source of economic gain, provides a framework for resource allocation and guides the firm's decisions regarding management and organization. Vranešević et al. (2006) use various strategy and tactics tools which should be followed together in the strategy planning process. Michael Porter (1980) considers that strategic position of the company is closely related to competitiveness and developed the 5 forces model which is still used in considering the competitiveness in the scope of business strategy. Porter's model takes into account that each industry is influenced by five main forces: the level of rivalry among existing competitors, bargaining power of suppliers, bargaining power of buyers, threat of new entrants and threat of substitutes. But Porter was not the only author trying to model business strategy. Bruce Henderson (Henderson, 1970) presented the Growth-Share Matrix which categorizes products within a company's portfolio as stars, cash cows, dogs, or question marks according to growth rate, market share, and positive or negative cash flow. But Porter (op. cit.) considers that this matrix doesn't have to be applied only to products but also to industries too. And if BCG matrix can be used on both product and industry level, than it should also be possible to use it at company level like in the case of the Mixmap model developed by Vignali and Davies (1994). Igor Ansoff (1957) was focused more on the relations between markets and products and based on this relation developed a matrix which suggests strategic marketing moves whether they are market development, diversification, product development or market penetration. Ansoff matrix is also a matrix which is used in the Mixmap model as suggested by Vranešević et al. (op. cit.).

McKinsey (Official McKinsey web page, 2013) extended the BCG matrix and created a nine-box matrix which is now widely known as GE/McKinsey matrix. The main purpose of this matrix is to observe the relations between the industry attractiveness as external factors and business strength as internal factors which influence the perspective of the company and to help in making decision on investing or divesting. These models are related to strategy, but on tactical level, there are also useful tools which help to gain marketing aims. One of such tools is the marketing mix which is tactical marketing tool and initially it was not considered in the form of the matrix model. For instance, Mlivić Budeš (2008) considers marketing mix as a group of marketing tools which is used to influence buyers on targeted market. In order to make it possible to use marketing mix as a tool in matrix marketing approach of the Mixmap model, Vignali and Davies (op. cit.) suggested the usage of the matrix approach with two most important variables which follows the BCG

matrix scheme. Mixmap approach was described in more details also by Vranešević et al. (op. cit.) who use the product life cycle diagram with four main periods (Hofer, 1975). According to Vignali and Davies (op. cit.), the life cycle can also be followed in BCG matrix as the company starts as question mark, follows to be a star, continues the life as a cash cow and ends in the dogs position. Vranešević et al. (op. cit.) consider that in a similar way, the company moves through the Ansoff matrix too starting with the offer of smaller number of products on higher number of markets, then increasing the number of products, then focusing on the most important markets and finally focusing on main products. Finally the Mixmap model presented by Vignali and Davies (op. cit.) suggest that the matrix marketing visualisation of the marketing mix can also be used in a way that the most important variable is positioned on Y-axis and the second most important variable on X-axis. The described approach of the Mixmap model was the main foundation of further development of the Stratics model.

But the problem was that the Mixmap model was the model on paper and as such it was not interactive. The diagrams were supposed to be read and understood by experts and there was no understanding on the real position of the company if the variables were not in-line with each other. The Mixmap model recognized the quadrant on each of diagrams where the company was positioned, but there was no fine-tuning which would show which of the variables is more or less important. It was also recognized that there could have been the possibility to include the GE/McKinsey matrix in the model and there was the understanding that it must be possible to use the methods of artificial intelligence in order to follow the path of expert analysis and to provide the initial suggestion on possible strategic and tactical actions which would help to improve the business result. In order to cope with the interactiveness and artificial intelligence methods there was the need to make further research in the field of model building.

Model Building

Baračkai et al. (2005) consider that the knowledge which is needed to manage a business unit or a company is transdisciplinary knowledge which therefore asks for the approach from several disciplines to be used and in this process the modelling can be very useful. But although modelling is widely used in everyday life whether when kids are playing with model toys, or when women are choosing the most suitable hairstyle or clothes, Baračkai and Velencei (2004) consider that managers and researchers of business decisions usually do not use modelling, but prefer to experiment in real life conditions. Instead of the term modelling, Buble (2006) uses the term quantitative analysis and describes quantitative analysis process.

In order to make mathematical models, there is the need to use information technology (IT) equipment. In the book "Corporate management" Mario Spremić, one of Tipurić's associates (Tipurić et al., 2008) gives the insight in the advantages and disadvantages of using IT tools for world leading corporations on Croatian market. Zimmermann (1990) says that there are different types of computer supported systems which can help in decision making process, but the most frequently used are management support systems (MIS). On the other hand, Omazić and Baljkas (2005) consider that in many cases managers use IT only as a support to accountancy.

But since IT development has enabled the advanced usage of fast calculations in decision support, this leaded to the development of artificial intelligence and Huffman (2001) describes one of the best known presentations of artificial intelligence superiority in

decision support- the famous chess game between world's best chess champion Garry Kasparov and IBM's computer Deep Blue, where Deep Blue won the game. Horvitz et al (1988) said that the development of artificial intelligence techniques in 1970's provided a promising alternative to the design of expert systems. Jones and George (2006) consider expert systems as the most advanced management information systems available and Neumann et al. (2002) say that they are programs for reconstructing the expertise and reasoning capabilities of qualified specialists within their domains.

The other kind of artificial intelligence is the knowledge representation which Baral and Gelfond (1994) consider as the most important subareas of artificial intelligence. Medarac (2014) says that knowledge representation models or knowledge based systems use standard logical expressions to make decision based on predefined knowledge database.
But knowledge representation is not the only artificial intelligence method which helps in making decisions. Sokolova and Fernández-Caballero (2009) consider the concept of decision support system (DSS) as very broad, since there are many approaches to decision making and there is a wide range of domains in which decisions are made. According to Shang et al. (2008) decision support systems (DSS), as types of information systems designed to support semi-structured or unstructured managerial activity, are ideally suited to bridge the gap between enterprise systems and decision-makers. Niu et al. (2013) see decision support systems as 'executive mind-support systems' that are supposed to support decision-making from human cognitive perspectives. According to Shang et al. (op. cit.) the first reported DSS appeared in the 1960's. Lirov and Lirov (1990) made the research on subject bibliography of logic programming applications in control and decision support systems and according to their research results, the first article on this subject was published in 1974, the first book in 1983 and the first dissertation in 1984. In 1988 there were already 72 articles, 7 books and 6 dissertations published, while by the same year a total number of publications was 330 (ibid.). When taking into account the development of personal computers, it was evident that wider interest in decision support systems was increasing with the possibility to use personal IT equipment. Power and Sharda (2007) also consider that quantitative models embedded in a decision support system (DSS) can help managers make better decisions. Decision support systems can be used in many different areas like for instance in agriculture (McCrown, 2002), financial markets (Leigh et al., 2002), energy (Nakata et al., 2011), accidental mushroom and plant poisoning (Zotti et al. 2001), medicine (Lin et al., 2006), inventory management (Shang et al., op. cit.), relationship marketing (Watkins and Hill, 2009), sustainable river basin land use management (Chen et al., 2005) or health impact (Sokolova and Fernández-Caballero, op. cit.), but one thing that has to be taken into account when using decision support systems is that although computers are superior in calculation performances than humans, decision support systems are still simplified versions of reality. They do not copy the reality as it is, but with a certain level of incompleteness and uncertainty. This means that there is always the level of error and probability that decision support system could suggest a wrong decision in certain, unusual environmental conditions.

Mathematical models are mutually interrelated mathematical relations where for certain values of independent variables, dependent variables reach values which can represent a certain phenomenon in reality. Arciszewski (1986) makes a clear difference when using the term mathematical model and software development and uses the term mathematical model only in the scope of defining mathematical relations, but now the term mathematical model has much wider scope. Mathematical models are widely used in research and business and in many different areas like the oil industry (Lababidi et al., 2011), renewable energy sources (Medarac et al., 2013), the distribution and atmospheric volatilization of

soil fumigants (Wang et al., 2007) or the usage of electricity storage for better position on electricity market (He et al., 2011). Mathematical models can be developed as simulation mathematical models and optimisation mathematical models.

To simulate means to copy the characteristics of some thing or of some phenomenon. Neely and Tucker (2013, 128) use simulations not as software, but in the process of education at the MBA programme in order to prepare students for real life situations. Since before the wider IT development it was very expensive to make and run proper simulation mathematical models, Ansoff and Slevin (1968) also focused their research on examination of the influence of the process of model development on business result. Today, simulation models are usually used for the purpose of what-if analyses where the main task is to examine consequences of certain actions. Simulation models are the easier ones to develop as they are supposed to copy the relations between variables from reality and to calculate the result, but there are also more advanced models which are supposed to calculate the input actions which should be done in order to get the targeted end-result. These models are called the optimisation mathematical models.

Medarac and Medarac (2009) explain the usage of optimisation mathematical models first of all in process and energy plants. Bakhrankova (2009) speaks on usage of mathematical models and particularly optimisation ones in the chemical industry. Optimisation mathematical models are usually used in continuous processes which can be found in energy systems, but also in process industries like oil industry, chemical industry, food industry and similar.

During the research process it was decided that the Stratics model which will be developed in the main research will be the simulation mathematical model which can be used for what-if analyses of strategic and tactical moves and will have integrated artificial intelligence module which would help in analysing the result and making decisions.

Literature review conclusions and gaps

The literature review gave positive answer to the first research question and identified the gaps based on which the Stratics model was supposed to be developed in the scope of the research:

- the Mixmap model was not interactive;
- the Mixmap model doesn't calculate the resulting position of the company;
- in the Mixmap model it is not clear which of the variables has higher importance;
- the Mixmap model can be used only by experts in the fields of management and marketing while for the other average practitioner it is not very easy to articulate the resulting diagrams;
- there could be the room to include the GE/McKinsey matrix in the process.

Primary Research Method Selection

Primary research is the type of the research where the data (primary data) is collected directly from the research subject, which can be a person, household, company, institution or something else (Marušić and Vranešević, 2001). Vranešević et al. (2006) say that primary data is collected for specific needs of the project through field research, observation, interviews, and various research instruments like surveys, mechanical, and electronic devices.

The second stage of the main research was a primary research where the action research approach on a case study for one Croatian company was recognized as the probably the most suitable research method.

Action research

Marshall (2011) says that action research is based on practice and practical knowing. Vignali and Zundel (2003) say that action research is an approach, which aims at both, taking action and creating knowledge or theory about the actions. Khanlou and Peter (2005) state that the term "action research" was introduced in 1946 by Kurt Lewin, but this is argued by Ottosson (2003) who considers that the term "action research" was actually introduced one year earlier in 1945 by John Collier, while Kurt Lewin is seen as the father of action research since he wanted to formulate the action research method to help practitioners. Cooper and Schindler (2006) state that in action research a corrective action is determined, planned, and implemented; the results of the action are observed and recorded; and the action is assessed as effective or not. This process is then repeated until the aim is reached, but during the cycles much is learned about the processes and about the prescriptive actions being studied. Kock (2004) presented action research process including five main steps: diagnosis, action planning, action taking, evaluating and specifying learning.

Nogeste (2008) used the dual cycle action research approach which was presented by McKay and Marshall (2001) with the problem solving cycle and the research interest cycle. Action research is today used in many different science and business disciplines such as information technology (Baskerville and Pries-Heje, 1999; Hartmann et al., 2009; Wastell et al. 2004; Ray and Ray, 2006), medicine, health and nursery (Heale, 2003; Coupland et al., 2005; Nomura et al., 2009; McKellar et al., 2009; Portillo et al., 2009; Coetzee et al., 2005; Walker et al., 2008), waste management (Fahy and Davies, 2007; Gutberlet, 2008), education (Paisey and Paisey, 2005; O'Sullivan, 2002; Mitchell et al., 2009; Moran, 2007; Valli, 2000; Markless and Streatfield, 2006; El-Dib, 2007; Chappell, 2008; McIntyre et al. 2007; Magos, 2007; Cardno and Reynolds, 2009; Desmarais et al. 2009; Greenbank, 2011; Standing et al., 2012; Pereira and Melao, 2012), hotel industry (Waser and Johns, 2003), communication media (Kock, 1998; Hearn et al., 2009), human resources (Hillsen and Ennals, 2005), heavy industry (Momme and Hvolby, 2002), politics (Ataov, 2007, Berger and Peerson, 2009; Cameron and Gibson, 2005), knowledge management (Butler et al., 2008), decision support systems (Kizito et al., 2009), product development (Mejia et al., 2007), quality management (Hales and Chakravorty, 2006; Cheah et al., 2011), psychology (Hunter et al., 2001), process management (Chakravorty and Hales, 2008), accounting (Liu and Pan, 2007), ethics (Langlois and Lapointe, 2010) or energy industry (Schneider and Vieira, 2010).

Case Study

Regarding the case study method Marušić (2001) provides two definitions of case study with considering both learning and research usage of case studies and when considering case study in the scope of research he doesn't consider case study as general research method, but only as a method to identify problems in a certain company. Cooper and Schindler (2006, 751) say that the case study is "a methodology that combines individual and (sometimes) group interviews with record analysis and observations." According to Gummesson (2003, 482), "in case study research one or several cases are used to arrive at specific or general conclusions about certain phenomena, recognizing the multitude of

variables, complex interrelations and ambiguities of business life." Walker (2004) considers case study as one of six major sources for modern consideration of the field of strategy and Yin (1981, 98) says that "the need to use case studies arises whenever an empirical inquiry must examine a contemporary phenomenon in its real-life context, especially when the boundaries between phenomenon and context are not clearly evident." Yin (1994) also provides techniques for good case study evaluation.

Case study as the research method is also widely used in many different areas of science and business such as information technology (Reeves-Ellington and Anderson, 1997; Elish et al., 2013), tourism (Fairer-Wessels, 2007; Gronau and Constanti, 2008; Wu et al., 2013; Henderson, 2009), relationship marketing (Rashid, 2007), behavioural branding (Kaufmann et al., 2007), food and drinks (Vignali et al., 2007; Roy, 2010; Asad Sadi, 2006; Vignali et al., 2008), human resources (Hodgson and Ala-Hiiro, 2006; Bahn, 2013), strategic management (Wei, 2008; Tsai et al., 2008, Ciasullo and Troisi, 2013), privatization (Tipurić et al. 2, 2007; Prester et al., 2007; Galetić et al., 2007; Tipurić et al.3, 2007; Hruška et al., 2007), corporate management (Tipurić et al.1,2007; Tipurić et al.4, 2007; Tipurić et al.5, 2007), marketing (Medarac and Medarac, 2009), jewellery (Pantano, 2008), education (Larsen et al., 2013; Neely and Tucker, 2013; Wood and Henderson, 2010), process management (Kumar et al., 2013), change management (Yilmaz et al., 2013; Mihail et al., 2013; Exter et al., 2013), public-private partnership (Bruce, 2013) or knowledge management (Ranjbarfard et al., 2013).

Conclusions on research methods

Since the author of this research had good understanding of Croatian business economy, it was the intention to conduct the main research as an action research on a Croatian company where the author had the influence in the process of decision making and could develop the model according to findings from this research. This meant that the model was supposed to be fully applicable to Croatian market, but since the grounded theory on which the model was developed is the same worldwide, it was expected that the model should also be applicable outside borders of Croatian market. A combination of action research and case study strategy was selected as the most appropriate since the Stratics model as an interactive model was supposed to be developed in phases and implemented during the development process of a couple of years. Combination of action research with case study was therefore recognized as the most appropriate research approach for the nature of the research. Furthermore, a case study approach was seen as appropriate one since it allowed the researcher the opportunity to make decisions and control the implementation during the research process.

Conclusions

The literature review part of the research process of improvement of relations between business strategy and marketing tactics showed that there was a gap for the logical upgrading of the existing marketing models by making them more simple and interactive. On the basis of this conclusion, the action research process was undertaken on the case study of one Croatian company which later resulted in the development of the Stratics model.

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The casuality relation between export, import and economic growth: UAE Case

Majeed Ali Hussain

American University in the Emirates,United Arab Emirates

Afaf Abdull J. Saaed

American University in the Emirates,United Arab Emirates

Abstract

The study focuses on finding a relationship between Export (EX), Import (IM) and Economic growth (GDP) in UAE. Granger Causality and Cointegration test were employed in the empirical analysis. Using Augmented Dickey-Fuller (ADF) and Phillip-Perron (PP) stationarity test, the variable proved to be integrated of the order one 1(1) at first difference. Johansen and Juselius Cointegration test was used to determine the presence or otherwise of a cointegrating vector in the variables. Both Trace and Maximum Eigenvalue indicated a cointegration at 5% level of significance pointing to the fact that the variables have a long-run relationship. To determine the direction of causality among the variables, at least in the short run, the Pairwise Granger Causality was carried out. The causal nexus is unidirectional from IM to GDP, So, IM led GDP and from IM to EX is empirically proven in UAE. This indicates that UAE is mostly consumer durables goods not capital goods. But, imports of UAE lead export and GDP significantly, because UAE imports capital goods that used for infrastructural development of UAE, meaningfully exports the outcomes of this infrastructure. It is expected to be significant in the future.

Keywords: Exports, Import, GDP, Causality, UAE

Introduction

Economic growth is one of the foremost objectives of every economy in the world and economic growth is primary to economic development. There are many contributors to economic growth. One of the elementary economic questions is how countries can accomplish economic growth?. One of the answers to this question relies on the export-led growth (ELG) hypothesis which claims that export growth is a key factor in promoting economic growth In the open economy, nations are concerned with increasing the quality of life of their citizens. And, the quality of life mainly comes from the macro-economic prosperity. Thus, increasing Gross domestic Product is the most important objective of any economy. There are different approaches to achieve this target of which one possibility is to promote exports. At this juncture, an important issue immediately cracks the minds of economists and researchers, that is, whether export promotion leads to higher economic growth or economic growth promotes exports growth. Thus, economists came up with different views at different times and the literature puts forward a debate for researchers and policy-makers since the last few decades. One school of thought argues in favour of export-led growth hypothesis while the other school advocates for growth-driven export hypothesis. In addition, the existing literature also provides the evidence that export promotion leads to economic growth and economic growth leads to export promotion, i.e., the bi-directional causality between exports and economic growth.

Most of studies on the effect of exports on economic growth have mostly employed bivariate causal model and ignored the contribution of imports. However, some recent

studies have shown that without controlling for imports, any observed causal link between export and economic growth might be superior and thus misleading (Esfahani, 1991;Riezman et al 1996;Thangavelu and Rajagurn,2004) As strongly argued by Rodrik (1999), import may play a very significant role to long run economic growth, since significant export growth is usually associated with rapid import growth. Furthermore, the export growth analyses the exclude imports may be subject to the classic problem of omitted variables that might overstated the impact dynamic between export and economic growth.

This paper also tries to correct for the misspecification bias, in terms of omitting important variables, of the earlier studies by a adopting a multivariate framework. Given that many variables can be used as the additional variable in this multivariate framework, for instance, Wong (2007) include terms of domestic demand in their model; Hussain (2013) use imports as the additional variable, we have to identify the suitable additional relevant variable. After a careful consideration, imports have been selected as the additional relevant variable which we intend to introduce in our empirical work. We use imports instead of other variables because imports may interact with the income and exports of a developing country such as Pakistan. The export activities of a country lead to the accumulation of foreign exchange which allows the country to import intermediate and final products, such as capital goods. The imports of high quality capital good expand the country's production possibilities. This suggests that imports allow export sector to use more advanced technologies which subsequently lead to higher export activities. Exports also have direct effect on the expansion of income of a country. First, exports lead to an improvement in efficiency by increasing competition and by allowing export sector to adopt more advanced technologies. Second, the addition of international markets to the domestic market allows firms in the export sector to have higher capacity utilization and to enjoy greater economies of scale. Higher income may encourage domestic firms to invest in the areas which can be used to increase the export capacity of domestic producers and to explore foreign markets. In general, exports, imports and income of a country tend to reinforce each other. Therefore, the inclusion of imports in the study of export-led growth hypothesis is crucial.

The primary objective of this study is to estimate the long run relationship between economic growth, Export and Import in UAE for the period 1977-2012. To achieve this objective the paper is structured as follows; following this brief introduction is section two which is concerned with review of related literature, section three deals with data, methodology and model specification, section four is concerned with empirical analysis of result while section five concludes the study

Literature review

Numbers of studies have been conducted to examine the link between exports and economic growth. Various studies have proved that there exists a strong relationship between exports and economic growth; however some have not proved any linkage.

There are several empirical researches to test the importance of exports in the process of economic development. In the context of East Asian countries, time series analyses that tested the ELG hypothesis, showed mixed results. For example, a study by Ahmad and Harnhirun (1996) tested the ELG hypothesis for five ASEAN economies (i.e., Malaysia, Indonesia, Singapore, Thailand, and the Philippines) over the period 1966-1986. They did

not detect a co integrating relationship between the countries' exports and their economic development.

Furuoka and Munir (2010) chose Singapore as a case study to examine the relationship between the origin of the East Asian Miracle (i.e. export dependency) and the economic growth. For this purpose, they employed causality test developed by Toda and Yamamoto (2005). The empirical findings indicated that despite a negative long run relationship between export dependency and economic growth, Singapore's heavy reliance on exports does not seem to have produced negative effects on the nation's economic growth. This was because the increase in export dependency was an effect, and not a cause, of the country's output expansion

Chen (2007) tried to assess the validity of the Export-led Growth (ELG) and the Growth-driven Export (GDE) hypotheses in Taiwan by testing for Granger causality supported by the model called Vector Error Correction (VECM) The empirical results substantiate that a long-run level equilibrium relationship exists among exports, output, terms of trade and labor productivity of the model and that Granger causal flow between real exports and real output is reciprocal. Thus, the results attest to the advantage of the export-led growth strategy for continuous growth in Taiwan.

Wong (2007) examined the nexus of exports, domestic demand and economic growth in the Middle East countries, namely Bahrain, Iran, Oman, Qatar, Saudi Arabia, Syria and Jordan. The results of the Granger causality test show that exports, consumption and investment are important to economic growth and also economic growth is important to exports, consumption and investment. Nonetheless, the findings vary across countries in the region. There is a tendency that exports have a stronger impact on economic growth when a country has a higher ratio of openness to international trade. Nonetheless, there is no strong evidence that consumption or investment has a stronger impact on economic growth when a country has a higher ratio of consumption to gross domestic product (GDP) or investment to GDP.

Consumption was found to be more important than investment in contributing to economic growth. A sustained economic growth requires growth in both exports and domestic demand. Moreover, economic growth will increase exports and domestic demand.

Wong, (2008) examined the importance of exports and domestic demand to economic growth in ASEAN-5, namely Indonesia, Malaysia, the Philippines, Singapore and Thailand before Asia financial crisis, 1997- 1998. The results of the Granger causality test show some evidence of bidirectional Granger causality between exports and economic growth and between private consumption and economic growth. The relationship between investment and economic growth and also between government consumption and economic growth is less conclusive. A successful sustained economic growth requires growth in both exports and domestic demand. Moreover, economic growth will increase domestic demand and exports. There is no strong evidence to suggest that the export-led growth (ELG) strategy is a main cause to Asia financial crisis.

Hussain (2014) test Granger causality between export and GDP growth of Pakistan during the period 1976-2011. The result of unit root test clarified that both GDP and export were found to be integrated of order one. The cointegration test confirmed that GDP and export are cointegrated, indicating an existence of long run equilibrium relationship between export and GDP.The error correction models test confirmed that there exist short run

causality between GDP and Exports. The Granger causality test finally confirmed the presence of unidirectional causality Unidirectional relationship between export and GDP,but not the other way.

Hussain(2013) examine the relationship between economic growth, exports and imports in Saudi Arabia using annual data sourced from World Development Indicators for the period 1990-2011.. The result of unit root test found that all the variables are integrated of order one I(1)). The result showed existence long run of cointegration among the variables tested. The result of the Granger causality test shows a unidirectional relationship between Export (Ex) and import (M); but the result of the causation between Exports and economic growth and imports and economic growth was statistically insignificant.

Ramos (2000) investigated the Granger-causality between exports, imports, and economic growth in Portugal over the period 1865-1998. The role of the import variable in the investigation of exports output causality is emphasized, enabling one to test for the cases direct causality, indirect causality, and spurious causality between export growth and output growth. The empirical results do not confirm a unidirectional causality between the variables considered. There is a feedback effect between exports output growth and imports output growth. More interestingly, there is no kind of significant causality between import export growth. Both results seem to support the conclusion that the growth of output for the Portuguese economy during that period revealed a shape associated with a small dual economy in which the intra-industry transactions were very limited.

Ramos (2001) investigated the Granger-causality between exports, imports and economic growth in Portugal over the period 1865-1998. The empirical results of the study didn't confirm a unidirectional causality betweenthe variables considered. There is a feedback effect between exports-output growth and import-output growth. Riezman et al. (1995:77-110) provided an investigation on export led growth that took account of import explicitly in the model. Using the forecast error variance decomposition, they found that the export-led growth would work both directly (import›export›growth) and indirectly through import (export›import›growth) in these countries.

Jordaan (2007) analyzed the causality between exports and GDP of Namibia for the period 1970 to 2005. The hypothesis of growth led by export is test through Granger causality and cointegration. It tests whether there is uni-directional or bi-direction causality between export and GDP. The results revealed that exports Granger cause GDP and GDP per capita and suggested that the export-led growth strategy through various incentives has a positive influence on growth.

Pazim (2009) tested the validity of export-led growth hypothesis in three countries by using panel data analysis. It is concluded that there is no significant relationship between the size on national income and amount of export for these countries on the basis of one-way random effect model. The panel unit root test shows that the process for both GDP and Export at first difference is not stationary while the panel co-integration test indicates that there is no co-integration relationship between the export and economic growth for these countries

Dash (2009) analyzes the causal relationship between growth of exports and economic growth in India for the post-liberalization period 1992-2007, and the results indicate that there exists a long-run relationship between output and exports, and it is unidirectional, running from growth of exports to output growth.

Data, Methodology and model specification

Data

The analysis used in this study cover annual time series of 1977 to 2012 or 36 observations. The data are obtained from the country tables published by the International Financial Statistics (IFS) and the International Monetary Fund, World Development Indicators(WDI) .Plots of the logarithms of the three time series are shown in Fig. 1. Demonstrates that the natural logarithms of GDP, the exports, EX, and the imports, IM, exhibits strong upward trends. This provides anecdotal evidence that the three series tend to move together. Summary statistics of LGDP, LEX, and LIM (table 1) indicate that these variables have means equal to 12.63711, 10.58283, 10.19305 with associated standard deviations of 0.834377, 1.111626, 1.111626 respectively. Overall, calculations indicate that GDP, EX and IM are normally distributed and is characterized as positively skewed.

Fig. 1. Natural logarithm of real GDP, Exp, and Imp.
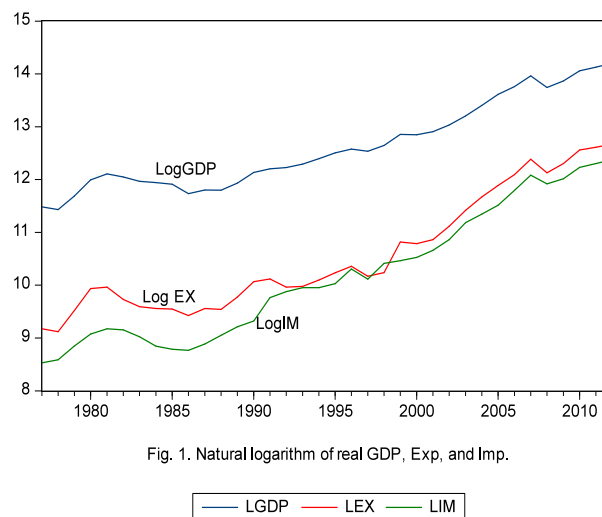
Table 1: Summary statistics of LGDP, LEX, and LIM

	LGDP	LEX	LIM
Mean	12.63711	10.58283	10.19305
Median	12.45023	10.14269	9.990403
Maximum	14.20593	12.67415	12.37811
Minimum	11.42999	9.118861	8.528212
Std. Dev.	0.834377	1.111626	1.238121
Skewness	0.513082	0.652461	0.391343
Kurtosis	1.986810	2.026358	1.823633
Jarque-Bera	3.119348	3.976201	2.994652
Probability	0.210205	0.136955	0.223728
Sum	454.9361	380.9819	366.9498
Sum Sq. De	24.36645	43.2499	53.65299
Observations	36	36	36

Source: Eviews version 8.

Methodology

This study examines the causal relationship among Economic growth,Export and Import, in UAE, using annual data from 1977 to 2012. Granger-causality test in Vector Ecrror Correction Model (VECM) framework is employed to examine causal relationship among Economic growth,Export and Import in UAE.. Description of data is presented first, and then procedure to examine stationarity of underlying time series is described. Next, Johansen co-integration test is described followed by Granger-causality methodology in VECM and finally the section is concluded with the discussion on stability of the estimated VECM.

Model Specification

The primary model showing the causal relationship among Economic growth, Export and Import in UAE can be specified thus:

$$GDPt = f(Ex, IM) \tag{1.1}$$

The function can also be represented in a log-linear econometric format thus:

$$LGDP_t = \alpha + \beta LEX_t + \beta_1 LIM_t + \varepsilon_t \tag{1.2}$$

Where:
LGDP=LogGDP is economic growth as a proxy for Gross Domestic Product
LEX=LogEX is Export
LIM=LogIM is Import
α is the constant term, 't' is the time trend, and 'ε' is the random error term.

Estimation Techniques

Unit Root Test

This involves testing the order of integration of the individual series under consideration. Several procedures for the test of order of integration has been developed. The most popular ones are Augmented Dickey-Fuller (ADF) test due to Dickey and Fuller (1979, 1981), and the Phillip-Perron (PP) due to Phillips (1987) and Phillips and Perron (1988). Augmented Dickey-Fuller test relies on rejecting a null hypothesis of unit root (the series are non-stationary) in favor of the alternative hypotheses of stationarity. The tests are conducted with intercept for each of the series. The general form of ADF test is estimated by the following regression

$$\Delta Y_t - \alpha + \alpha_{1t} + \beta Y_{t-1} + \sum_{i=1}^{k} P_{iY_{t-1}} + e_i -------------- (1.3)$$

Where $\Delta Y_t = Y_t - Y_{t-1}$ and Y is the variable under consideration, k is the number of lags in

the dependent variable chosen by Akaiki Information Criterion and e_i is the stochastic error term. The null hypothesis of a unit root implies that the coefficient of Y_{t-1} is zero. and the Phillip-Perron is equation is thus:

$$\Delta Y_t = \alpha + \beta Y_{t-1} + \varepsilon_t ---------------------(1.4)$$

Many macroeconomic time series contain unit roots dominated by stochastic trends as developed by Nelson and Plosser (1982). Unit roots are important in examining the stationarity of a time series because a non-stationary repressor invalidates many standard empirical results. The presence of a stochastic trend is determined by testing the presence of unit roots in time series data. A unit root test is performed using Augmented Dickey-Fuller (ADF) (1979) and Kwiatkowski.(1992)

Cointegration Test

This involves testing of the presence or otherwise of cointegration between the series of the same order of integration through forming a cointegration equation. The basic idea behind cointegration is that if, in the long-run, two or more series move closely together, even though the series themselves are trended, the difference between them is constant. It is possible to regard these series as defining a long-run equilibrium relationship, as the difference between them is stationary. A lack of cointegration suggests that such variables have no long-run relationship: in principal they can wander arbitrarily far away from each other (Dickey et. al., 1991). We employ the maximum-likelihood test procedure established by Johansen and Juselius (1990) and Johansen (1991) multivariate cointegration test. The procedure involves the identification of rank of the m-by-m matrix Π in the specification given by:

$$\Delta \mathrm{X}_t = \delta + \sum_{i=1}^{k-1} \Gamma_i \, \Delta \mathrm{X}_{t-i} \, \Pi \, \Delta \mathrm{X}_{i-k} + u_i$$

(1.5)

Where $\Delta \mathrm{X}_t$ a column vector of the m variables is, $\Gamma \, and \, \Pi$ represents coefficient matrices, Δ is a difference operator, k denotes the lag length, and δ is a constant. If Π has zero rank, no stationary linear combination can be identified. In other words, the variable X_t are non-coin grated. If the rank r and Π is greater than zero, however, there will exist r possible stationary linear combinations and Π may be decomposed into two matrices α and β, (each m x r) such that $\Pi = \alpha \, \beta'$ In this representation b contains the coefficient of the r distinct co integrating vectors that render $\beta' \, \mathrm{X}_t$ stationary, even though X_t is itself non-stationary α contains the speed of the adjustment coefficients for the equation.

Vector Error Correction Mechanism (VECM)

If cointegration is proven to exist, then the third step requires the construction of error correction model to model dynamic relationship. The purpose of the error correction model is to indicate the speed of adjustment from the short-run equilibrium to the long-run equilibrium state. The greater the co-efficient of the parameter, the higher the speed of adjustment of the model from the short-run to the long-run We represent equation (1.2) with an error correction form that allows for inclusion of long-run information thus, the Error Correction Model (ECM) can be formulated as follows:

$$\Delta GDP_t = \sum_{i=1}^{k} \alpha \, \Delta GDP_{t-i} + \sum_{i=1}^{k} \alpha_1 \Delta EX_{t-i} + \sum_{i=1}^{k} \alpha_2 \Delta IM_{t-i} + \lambda_1 EC1_{t-1} + \varepsilon_{1t} \qquad (1.6)$$

$$\Delta Ex_t = \sum_{i=1}^{k} \beta \Delta GDP_{t-i} + \sum_{i=1}^{k} \beta_1 \Delta EX_{t-i} + \sum_{i=1}^{k} \beta_2 \Delta IM_{t-i} + \lambda_2 EC2_{t-2} + \varepsilon_{2t} \qquad (1.7)$$

$$\Delta IM_t = \sum_{i=1}^{k} C \, \Delta GDP_{t-i} + \sum_{i=1}^{k} C_1 \Delta EX_{t-i} + \sum_{i=1}^{k} C_2 \Delta IM_{t-i} + \lambda_3 EC3_{t-3} + \varepsilon_{3t} \qquad (1.8)$$

where Δ is the difference operator; k, is the numbers of lags, α, α_1, α_2, β, β_1, β_2 and C, C_1 and C_2 are all short run coefficients to be estimated, $EC1t_{i-i}$ represents the error correction term derived from the long-run co integration relationship and λ is the error correction coefficient and ε_{1t} and ε_{2t} the serially uncorrelated error terms in equation (1.6), (1.7) and (1.8) respectively.

Result Analysis:

Testing for integration

The result of unit root test based on both the Augmented Dickey Fuller (ADF) and Phillips – Perron (PP) tests were applied to find the existence of unit root in each of the time series. The results of both the ADF and PP at the levels and first difference of the individual variables are reported in Table 2.

Table: 2 Unit Root Tests (ADF, PP) on LGDP, LEX and RIM (UAE:1990-2012)

Variables	ADF		PP		Order of integration	Unit Root
	Level	Δ	Level	Δ		
LGDP	0.0006***	0.9883	0.9844	0.0006***	I(1)	First difference stationary
LX	0.9841	0.0003***	0.9874	0.0003***	I(1)	First difference stationary
LM	0.9886	0.0003***	0.9849	0.0003***	I(1)	First difference stationary

Note: (1) *** denotes significant at 1% level respectively. and in PP test it is based on Newey-West using Bartlett kernel

Source: Eviews version 8

The results of unit root test, both ADF and PP, indicate that at level values none of the variables are stationary. However, at first differences of the variables, both ADF and PP test indicate that export and GDP are statistically significant at 1% significance level, and imports are statistically significant at 1% significance level. Since, first degree differentiation produces stationarity, the variables – LX (exports), LM (imports), LGDP (GDP) -are integrated of order one - I(1).Since the variables are integrated of order 1, now this paper tests whether they are co-integrated or not (Table 3 and 4). The Johanson test statistics show rejection for the null hypothesis of no co-integrating vectors under both the trace and maximal Eigen value forms of the test. In case of the trace test, the null of no co-integrating vectors is rejected since the test statistic of 32.68160 is greater than the 5% critical value of 21.13. Moving on to test the null of at most 1 co-integrating vectors, the

trace statistic is 4.918812, while the 5% critical value is15.49471, so that the null hypothesis is not rejected at 5%. Moving on to test the null of at most2 co-integrating vectors, the trace statistic is 0.042434, while the 5% critical value is 3.841466, so the null hypothesis is not rejected at 5%. Finally, results indicate the existence of at least one co-integrating relationship among the variables in the series.

Selection of lag length

Vector auto regression (VAR) is an econometric model that is utilized for the understanding of the linear relationships among variables with multiple time series. Models included in VAR simplify the autoregression models by allowing the impact for more than one changing variable on relevant time series data. The preliminary task in estimating the VAR model is to determine the optimum order of lag length. This is important since under parameterization may lead to estimation bias and over parameterization results in the loss of degrees of freedom and thus the power of the test. In order to select the lag length of the VAR model the selection criteria is used, Sequential Modified Likelihood Ratio (LR), Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Information Criterion (SIC) and Hannan-Quinn Information Criterion (HQ) are employed. It is clear from Table 3 that LR, FPE, AIC, SC, HQ and HQ statistics are chosen lag 1for each endogenous variable in their autoregressive and distributed lag structures in the estimable VAR model. Therefore, lag of 1is used for estimation purpose.

Table 3: Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-0.526068	NA	0.000249	0.213701	0.349747	0.259476
1	97.76760	172.7586*	1.11e-06*	-5.198036*	-4.653852*	-5.014935*
2	104.8791	11.20595	1.27e-06	-5.083580	-4.131257	-4.763152
3	115.0649	14.19844	1.23e-06	-5.155449	-3.794987	-4.697695

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Source: Eviews version 8

Testing for cointegration

Having confirmed the stationarity of the variables at 1(1), we proceed to examine the issue of cointegration among the variables. When a cointegration relationship is present, it means that economic growth ,export and import, share a common trend and long-run equilibrium as suggested theoretically. We started the cointegration analysis by employing

the Johansen and Juselius multivariate cointegration test. Table 3 and 4 shows the result of the cointegration test. From the result both trace statistic and maximum Eigenvalue statistic indicated cointegration at the 5 percent level of significance, suggesting that there is cointegrating relations between GDP, Export and Import.

The variables Economic growth, Export and Import must be nonstationary before take the first difference. and become stationary after the first difference. Trace Statistics shows that P-value= 0.023 which less than 0.05, meaning that we can reject H_N. What is H_N? H_N is that there is no co integration. so we have to accept H_A. Meaning that there are 1 co integration equations. That is mean GDP, Export and Import has a long run association ship. This is the outcome of Trace Statistics. Similarly with Max-Eigen value statistics, that variables are co integrated Empirical results from Co integration test are shown in Table 4. We can easily run VECM.to check the Causality between GDP, Export and Import

Table: 4 Output for Eigen Value Test and Trace Statistics (1977- 2012)

Sample (adjusted): 1979 2012				
Included observations: 34 after adjustments				
Trend assumption: Linear deterministic trend				
Series: LGDP LEX LIM				
Lags interval (in first differences): 1 to 1				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.558047	32.68160	29.79707	0.0226
At most 1	0.133612	4.918812	15.49471	0.8174
At most 2	0.001247	0.042434	3.841466	0.8368

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
 Source: Eviews version 8

Table 4:Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.558047	27.76279	21.13162	0.0050
At most 1	0.133612	4.876378	14.26460	0.7574
At most 2	0.001247	0.042434	3.841466	0.8368

 Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
 **MacKinnon-Haug-Michelis (1999) p-values
 Source: Eviews
version 8

Testing for Error Correction Model (VECM):

The result (Table 5) indicates that the ECM_{t-1} in mode I.1 tested by equation (1.6) is (-1.806851) of one period lag residual of co integrating vector between GDP, export and Import.That is mean GDP dependent variable and Export and Import are independent variable. The coefficient C (1) is negative and significant because p-value =0.0007< 0.05, then when the p-value < 0.05 become significant. Means that Export and Import has long run causality on GDP. That it means Export and import causes GDP in the long run. What about short run causality from export to GDP and from Import to GDP, we can also check that. We shall use Chi-Square (value Wald statistics) to check short run Causality from Export and Import to GDP.

Table 5: Error Correction Model

Sample (adjusted): 1980 2012
Included observations: 33 after adjustments
D(LGDP) = C(1)*(LGDP(-1) - 0.334149115547*LEX(-1) - 0.376470875588
    *LIM(-1) - 5.26719821065) + C(2)*D(LGDP(-1)) + C(3)*D(LGDP(-2)) +
    C(4)*D(LEX(-1)) + C(5)*D(LEX(-2)) + C(6)*D(LIM(-1)) + C(7)*D(LIM(-2))
    + C(8)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-1.806851	0.468988	-3.852662	0.0007
C(2)	0.744507	0.393347	1.892747	0.0700
C(3)	0.265209	0.412549	0.642855	0.5262
C(4)	-0.133931	0.207949	-0.644057	0.5254
C(5)	-0.075297	0.210705	-0.357358	0.7238
C(6)	-0.524284	0.231558	-2.264160	0.0325
C(7)	-0.395684	0.207480	-1.907098	0.0681
C(8)	0.120001	0.029335	4.090753	0.0004

R-squared	0.466370	Mean dependent var	0.076297
Adjusted R-squared	0.316954	S.D. dependent var	0.114920

Table 6: Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	2.008396	(2, 25)	0.1553
Chi-square	4.016792	2	0.1342
Null Hypothesis: C(2)=C(3)=0			
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(2)		0.744507	0.393347
C(3)		0.265209	0.412549

Restrictions are linear in coefficients.

Table 7:Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	0.319224	(2, 25)	0.7296
Chi-square	0.638449	2	0.7267
Null Hypothesis: C(4)=C(5)=0			
Null Hypothesis Summary:			

Normalized Restriction (= 0)	Value	Std. Err.
C(4)	-0.133931	0.207949
C(5)	-0.075297	0.210705

Source: Eviews version 8

The result (Table 6 and 7) indicates that The Chi- squares probability value 0.1342 which is greater than 0.05, meaning that we failed to reject H_N, meaning that C(2)=C(3)=0 . it means that all the Export having 2 lags. Jointly cannot cause GDP, meaning that there is no short run causality coming from export to GDP.Similarly, The Chi- squares probability value 0.7267 which is greater than 0.05, meaning that we failed to reject H_N, meaning that

C(4)=C(5)=0 . it means that all the Import having 2 lags. Jointly cannot cause GDP, meaning that there is no short run causality coming from import to GDP

Result of Granger causality test with VECM

The paper employs Granger causality test to examine the causal relationship between GDP, Export and Import in UAE. The main reason why the Granger causality test is favored among other test procedures is due to its robust response to both large and small samples.

The empirical results with using ordinary VECM suggest that export and import stimulates economic growth of in long run. The empirical results do confirm a bilateral causality between the variables considered. There is a unidirectional effect between imports and economic growth in short run, and there is a unidirectional effect between imports and exports. More interestingly, there is no kind of significant causality between economic growth and exports. The results of Causality between economic growth (GDP), export (EX) and import (IM) are contained in Table 8. The results reveal that by looking at the probability values. The Null hypothesis LEX does not granger cause LGDP cannot be rejected since the significant value is greater than 0.05. On the contrary, the null hypothesis LGDP does not granger cause LEX cannot be rejected. Thus it can be said that Granger causality runs one way, from exports to GDP, but not the other way. Finally it can be stated that there is unidirectional relationship between exports and GDP.

Table: 8 Granger Causality Test on GDP, Export and Import (1977 – 2012)

Pairwise Granger Causality Tests
Sample: 1977 2012
Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
LEX does not Granger Cause LGDP	35	0.91315	0.3464
LGDP does not Granger Cause LEX		0.02254	0.8816
LIM does not Granger Cause LGDP	35	9.58377	0.0041
LGDP does not Granger Cause LIM		0.91911	0.3449
LIM does not Granger Cause LEX	35	2.91134	0.0976
LEX does not Granger Cause LIM		0.07727	0.7828

Source: Eviews version 8

The output (Table 8) Granger Causality shows a causal relationship between the examined variables. This is the test of exogeneity of dynamic terms where the null hypothesis is that the LEX does not Granger cause of LGDP, but LIM does Granger causes LGDP, and LIM does Granger cause LEX. The result based on the Granger Causality test at 5% and10% level of significance will help to investigate and give meaningful conclusion. To stay in the safe side, while rejecting the null of Granger Causality Test, higher significance level is better. It is found that LIM causes LGDP at different significant level for different lag length, and LIM does Granger cause LEX, but not vice versa. So, the casual nexus is unidirectional.

Finally, we have to check the model efficiency, whether the model has ARCH affect, and Histogram-Normal and Serial correlation. First we check for Histogram-Normal, if Probability = p-value >0.05, meaning that the residual is normal, so Jarque-Bera p-value=0.958 which is greater than 0.05, meaning that the residual is normally distributed. (figure 1, Appendix)

Now we check for serial correlation. We run the Autoregressive model with the dependent variable as independent variable with lag (-1), we find that the model has no serial correlation, when obs R^2, p-value =0.3658which is greater than 0.05, we failed to reject H_N, rather accept H_N, meaning that this model does not have serial correlation (table A1, Appendix)

Now we check for ARCH affect. We found that obs'R^2 corresponding to the p-value= 0.0542 which is greater than 0.05, meaning that we cannot reject H_N, rather accept H_N, meaning that there is no ARCH affect. (table A2, Appendix)
Finally we check for Heteroscedasticity. We found that obs'R^2 corresponding to the p-value= 0.0414which is less than 0.05, meaning that we failed to reject H_N, meaning that the model affected by Heteroscedasticity.Which is not desirable. (table A3, Appendix)

Test for Stability

To ensure the robustness of our results we employ structural stability tests on the parameters of the long-run results based on the cumulative sum of square (CUSUMSQ) and cumulative sum (CUSUM) and tests proposed by Brown et al. (1975). A graphical representation of CUSUM and CUSUMSQ statistics are provided in figures 1and 2. If the plot of the CUSUM and CUSUMSQ remains within the 5 per cent critical bound and the null hypothesis that all coefficients are stable cannot be rejected. The plots indicate that none of the straight lines (drawn at the 5 percent level) are crossed by CUSUM and CUSUMSQ. I.e. the plots of both the CUSUM and CUSUMSQ are within the boundaries and therefore these statistics confirm the stability of the long-run coefficients of the GDP function in (model 1.6,1.7 and 1.8, respectively.

Plot of Cumulative Sum of square
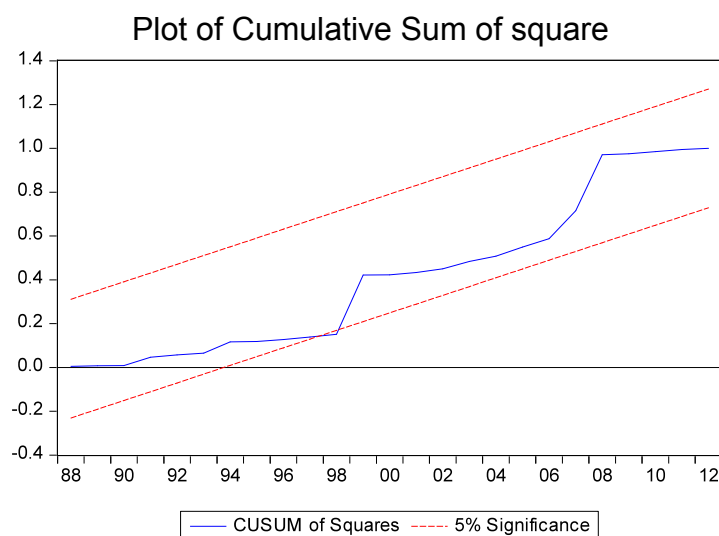
The straight lines represent critical bounds at 5% significance level

Plot of Cumulative Sum of Squares of Recursive Residuals

plot 2: CUSUM RESIDUAL
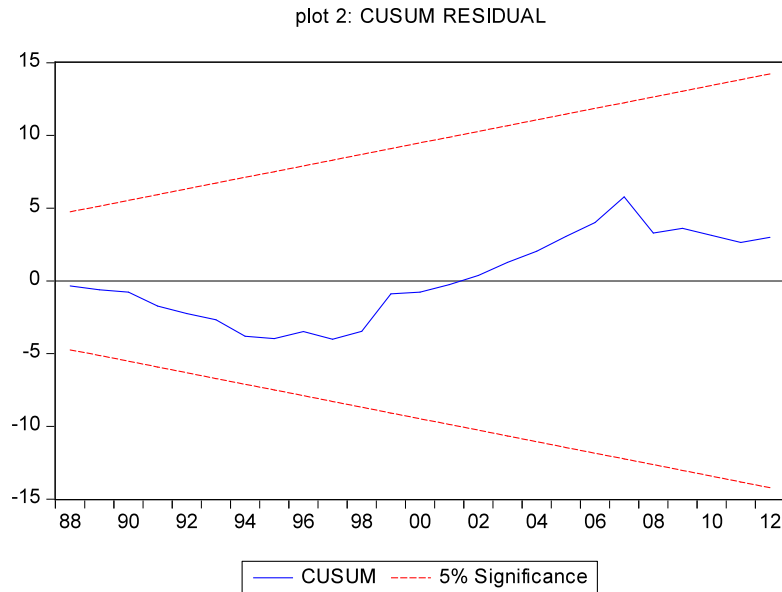
Source: Eviews version 8

Conclusion

This paper explores the association between three important component of an economy named as GDP, exports and imports. First of all, this paper applies unit root test to find the stationarity of the data series. The results of unit root test showed both ADF and PP, indicate that at level values none of the variables are stationary. However, at first differences of the variables, both ADF and PP test indicate that export and GDP and imports are statistically significant at 1% significance level.

Then it applies Johansen procedure to test the possibility of a co-integrating relationship, which shows one co-integrating relationship between GDP,exports and imports. In the existence of any co-integrating relationship, it is possible to move for standard Granger causality test to find out possible causal relationship among the variables. The causal nexus is unidirectional from IM to GDP So, IM led GDP and EX is empirically proven in UAE. As import lead GDP and export, it indicates   UAE is mostly consumer durables goods not capital goods. But, imports of UAE lead export and GDP significantly, because UAE imports capital goods that used for infrastructural development of the country; UAE meaningfully exports the outcomes of this infrastructure. It is expected to be significant in the future.

The stability of our proposed GDP model has been examined to assure the short run dynamics for long run consistency of parameters applying CUSUM test based on cumulative sum of square CUSUMSQ and cumulative sum and test is based on squared recursive residuals as initially proposed by Brawn et al (1975). The CUSUM test is plotted against the break points. The estimated coefficients are said to be stable in case if the plot of CUSUMSQ statistic stays within 5% level of significance.

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Appendix A

Figure 1: Test for Normality of Residuals
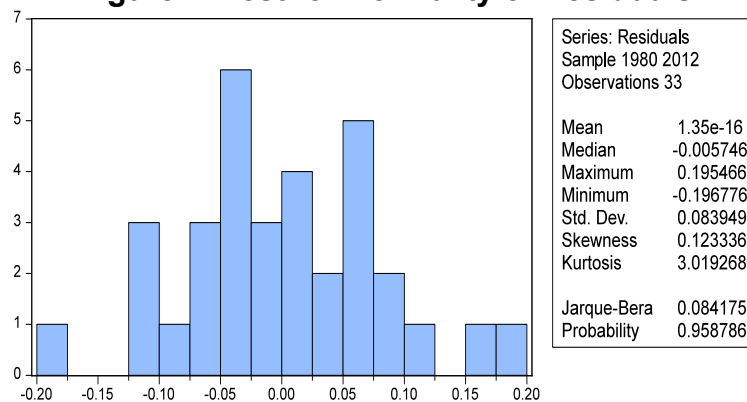
Source: Eviews version 8

Table A1:Test for Serial Correlation

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.746405	Prob. F(2,23)	0.4852
Obs*R-squared	2.011314	Prob. Chi-Square(2)	0.3658

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 12/30/14   Time: 21:09
Sample: 1980 2012
Included observations: 33
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.294172	0.739518	-0.397788	0.6945
C(2)	0.370293	0.510148	0.725853	0.4753
C(3)	0.012667	0.478921	0.026450	0.9791
C(4)	-0.217708	0.279728	-0.778285	0.4443
C(5)	-0.105801	0.230739	-0.458531	0.6509
C(6)	-0.117416	0.327258	-0.358786	0.7230
C(7)	-0.103032	0.251262	-0.410057	0.6856
C(8)	0.027404	0.047317	0.579146	0.5681
RESID(-1)	0.169910	0.518760	0.327532	0.7462
RESID(-2)	0.427457	0.426347	1.002603	0.3265

R-squared	0.060949	Mean dependent var	1.35E-16
Adjusted R-squared	-0.306506	S.D. dependent var	0.083949
S.E. of regression	0.095956	Akaike info criterion	-1.604803
Sum squared resid	0.211775	Schwarz criterion	-1.151316
Log likelihood	36.47925	Hannan-Quinn criter.	-1.452218
F-statistic	0.165868	Durbin-Watson stat	2.017499
Prob(F-statistic)	0.995800		

Source: Eviews version 8

Table A2:Heteroskedasticity Test: ARCH

F-statistic	3.931063	Prob. F(1,30)	0.0566
Obs*R-squared	3.707341	Prob. Chi-Square(1)	0.0542

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 12/30/14   Time: 21:11
Sample (adjusted): 1981 2012
Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.004573	0.002075	2.203806	0.0354
RESID^2(-1)	0.341241	0.172110	1.982691	0.0566

R-squared	0.115854	Mean dependent var	0.006967
Adjusted R-squared	0.086383	S.D. dependent var	0.009989
S.E. of regression	0.009548	Akaike info criterion	-6.404477
Sum squared resid	0.002735	Schwarz criterion	-6.312868
Log likelihood	104.4716	Hannan-Quinn criter.	-6.374111
F-statistic	3.931063	Durbin-Watson stat	1.859214
Prob(F-statistic)	0.056624		

Source: Eviews version 8

Table A3: Test for Heteroscedasticity
Heteroscedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.886676	Prob. F(9,23)	0.0194
Obs*R-squared	17.50391	Prob. Chi-Square(9)	0.0414
Scaled explained SS	10.14264	Prob. Chi-Square(9)	0.3391

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 12/30/14   Time: 21:10
Sample: 1980 2012
Included observations: 33

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.701191	0.211341	-3.317828	0.0030
LGDP(-1)	0.094683	0.042885	2.207818	0.0375
LEX(-1)	-0.048400	0.021847	-2.215388	0.0369
LIM(-1)	0.033263	0.012953	2.567958	0.0172
LGDP(-2)	0.025064	0.048337	0.518530	0.6090
LGDP(-3)	0.010035	0.035209	0.285025	0.7782
LEX(-2)	-0.010039	0.026940	-0.372652	0.7128
LEX(-3)	0.010849	0.018759	0.578318	0.5687
LIM(-2)	-0.046968	0.016660	-2.819177	0.0097
LIM(-3)	-0.029065	0.017454	-1.665183	0.1094

R-squared	0.530421	Mean dependent var	0.006834
Adjusted R-squared	0.346673	S.D. dependent var	0.009862
S.E. of regression	0.007971	Akaike info criterion	-6.580957
Sum squared resid	0.001461	Schwarz criterion	-6.127470
Log likelihood	118.5858	Hannan-Quinn criter.	-6.428373
F-statistic	2.886676	Durbin-Watson stat	1.349814
Prob(F-statistic)	0.019357		

Source: Eviews version 8

Reflection - Exploring Corporate Compliance in Regulated Industries – The Example of the German Investment Industry

Christian Zwerenz
University of Gloucestershire, UK

Introduction

The concept of reflecting on experience can be a crucial part of adult and professional learning. Put simply, *reflection* refers to the deliberate, critical and responsible assessment and evaluation of an action on the basis of knowledge and experience (Dehnborstel, 2002).

Reflection hence contains a moment of holding still and looking back. Thus it contains an element of personal knowledge and experiences.

While many learning methods are grounded largely on the knowledge of others (and the systematic re-application of this knowledge on different contexts), the epistemology for reflective learning typically involves individual experience. This individual experience serves as a lens through which an action is viewed and evaluated anew. Thereby reflection can be used to provide a link between research and practise.

The late scholar Donald Schön emphasised this link between research and practise and developed the term "reflective practitioner" (Schön, 1991). Schön challenged the prevailing philosophy of many researchers and noted that rigorous applied methods and procedures alone cannot be the only epistemological tools to fully understand professional practise (Fear and Sandmann, 2001). He called this new paradigm "the new scholarship" and encouraged scholars to think more critically about their own reflections (Schön, 1995).

Following this idea and putting it to practise, the purpose of this paper is to provide a personal case study and to (self-) reflect on my personal development as a first year doctorate student at University of Gloucestershire.

My personal notebook as well as my personal assignments submitted during the period are the artefacts that provide the data for this case study. My notebook is a small handwritten book with random entries that run from July 2013 to July 2014. It contains various notes that I have made throughout my study on the doctoral programme. Entries can sometimes refer to ideas that came to mind and sometimes are simple lecture notes.

I identified the following two dimensions that illustrate my personal development as a research student:

- The development of my research project
- The development of my critical thinking

This study is organised under these topics. Unless marked otherwise, all quotations are from my personal notebook. Quotations sometimes use poor grammar and language. I decided not to change the grammar or the wording of the quotations from my hand-written notebook in order to preserve an original *voice* for the reader.

The development of my research project

For those of us who have never studied for a doctorate and who have thus never faced the challenge of planning a research project, it comes as surprise that this can become a dynamic process.

The first page of my notebook illustrates some initial ideas for my personal research project. The headline reads "*Why do financial regulators always fail? (the example of Germany)*". Below that headline a diagram shows the magnitude of the global financial crises from A.D. 1800 to 2003, which I remember copying from a book entitled "*This time is different: eight centuries of financial folly*" (Reinhart and Rogoff, 2009). Below this diagram is another diagram, illustrating when certain laws governing the financial markets have been enacted in Germany. Both diagrams share the same X-axis which extends over the period from A.D. 1800 to 2003. Both diagrams are connected (the connection is illustrated by two circles drawn with a dotted line). The original diagram is shown in figure 1.

On the bottom of the page a note reads:
- *A comparative study of financial crises and historical financial markets regulation and related policies might show some correlations.*
- *New laws, policies and regulations were enacted as result of crises. Why did this never prevent the next crises from occurring?*
My initial research interest was driven by the observation that the financial markets are tightly regulated by laws and that nevertheless, financial crises occur again and again.

Figure 1: First page of my notebook, illustrating my initial thoughts on my research topic.
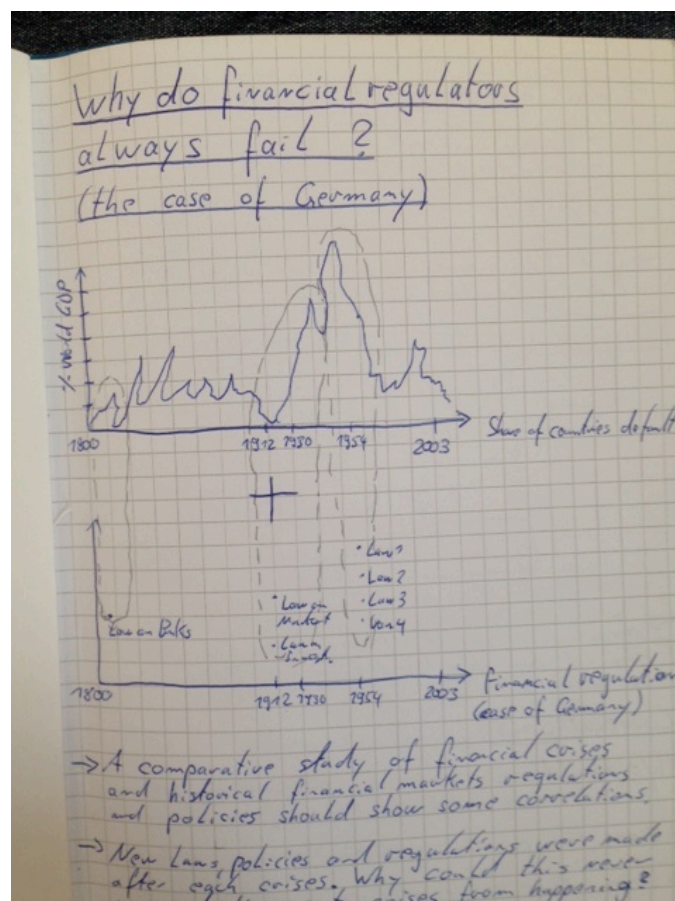
My plan was to conduct a study based on historical data regarding financial crises (such data was available from the study of Reinhart and Rogoff (ibid.) and to show the historical development of the laws and regulations governing the financial markets. I assumed that the time when a new regulation came into effect or was changed or perhaps even withdrawn would be correlated with the time that a new financial crises began or ended. If that was the case, it would mean that financial market regulators have always failed to regulate the markets in order to avoid financial crises successfully.

Thinking back, I believe that I was ignoring the nature of the data that I intended to use to find relevant correlations: The study would involve measuring the magnitude of a financial crisis on the one hand (typically quantitative data measured by numbers and percentage) and analysis of laws and regulations (typically purely qualitative data).

Consequently, and in order to find the potential correlation, I would have had to link quantitative and qualitative data in a meaningful way. That might involve the need to measure non-numerical data (e.g. counting the number of laws passed a certain time) or to find a method to compare numerical data like the magnitude of financial crises with non-numerical data. I did not think through this methodological challenge at that time and did not develop any further ideas to cope with it.

The first challenge that I had as a doctorate student was to develop a theoretical framework for my research project from the literature.

Reading a few more pages in my notebook I found evidence for the further development of my thinking:
A note a few pages later reads:
Correlation between regulation and financial crises – two perspectives:
1. Law/Regulation has (presumed) impact on financial crises.
Regulation > Financial Crises
2. Financial crises and regulation:
Does regulation help to prevent financial crises?
Financial Crises > Regulation
In other words I was trying to formulate the following questions:
- Are financial crises to some extend caused by regulations?
- Does financial regulation follow financial crises?
- Are there other factors that cause financial crises?
-

These questions marked the beginning of my search for theory in order to construct a theoretical framework to underline my research project. The headline for this section of my notebook could have been: "What would a theoretical framework look like for a research that attempts to find correlations in financial market regulation and in financial crises?"

I sought answer to the above questions in the literature on the theory of financial market regulation. My notebook contains many pages of summaries of such theories. An assignment that I drafted to illustrate my literature review provided a good account of in-depth research on the theory of financial market regulation that I conducted at that time.

Finally I was able to produce a theoretical framework for a study of financial market regulation. However this framework did not really help as a framework for a study that shows the correlation between financial crises and financial regulation. A few pages later I found the following entry in my notebook:

Theory:

       1. Which theory was used by regulators over time?

       2. Are there problems of cyclical regulation?

       3. Are there problems of compliance / what is the degree of compliance over time?

       4. Which other factors may exist (e.g. low payment of staff at regulators vs. high payment in the industry, etc.)?

       5.

This note illustrates that my thinking about the underlying theoretical framework had not stopped at this point. I had moved beyond theories of financial market regulation and had started to look at other problems like compliance to the regulations. I began to realize that it would not be enough to look at the regulations in the law books to understand why financial crises have occurred in the past. It would be equally important to understand if and to what extend these regulations were enforced. The best law would be useless, if people did not comply with it.

I remember how frustrated I was at that point. My research project which I thought was clear and straight at this point had grown big and vague.

Another entry in my notebook dated 15.11.2013 marks the date when I made a change in my research project plan. It reads:

The aim of a DBA thesis should not only be to solve a problem. It can also be used to describe a problem in more depth.

I remember that this note was made on a day when I attended a lecture on research methods. The note was the quotation of the words of the lecturer. These few words that the lecturer used – and I don't even remember the context in which he said them – triggered some thinking in me: Would I try to solve a problem with my research project? Probably I would. I was actually very ambiguous, as I planned to show how financial regulators have failed to prevent financial crises over time.

At that time I realized that my approach to my research project was not yet sufficiently focussed. It may even be described as being "too ambiguous". I could not realistically investigate regulations in the light of history and market theory and analyse problems of compliance in one single research project.

As part of the lecture, all students had to prepare a short presentation and present their research project and explain the method they would use. I took this exercise as an opportunity to refine my research topic. I decided to narrow it down:

At this point I had already concluded that regulations can only help to avoid financial crises, if: 1. the regulations are designed accordingly and if: 2. compliance with these regulations is high. Considering the different data that would be needed to be analysed (quantitative and qualitative data) I decided to focus my research exclusively on one of these two aspects. I decided to research aspects of compliance.

I still recall how I explained this in class:

"*Laws and regulations are like medicine for the financial market. Only if they are 1. well designed and 2. if the market "swallows" the pill, can they help to avoid future financial crises.*"

I remember this because I thought that this would really be understandable and straight to the point. And, indeed I received some positive feedback from the class.

I changed the name for my planned research project slightly from "*Why do financial regulators always fail? (the example of Germany)*" to "*Why do financial regulators fail? (the example of Germany)*" in order to show that I no longer planned to conduct a historical analysis.

Figure 2: A slide of the presentation that I made to a class of fellow-students that shows my changed research scope.

Conceptual framework - Reflexion

Based on my initial conceptual framework (result of my literature review) there are two possible reasons that financial regulators fail:

1. **Regulations are insufficient in themselves to prevent or control potential financial crises (their effectiveness) or**

1. **acceptance, understanding and therefore compliance with the rules is low and the rules become in-efficient (their efficiency).**

To explore both seemed to be too much for one thesis, as different data and different methodologies would be required.
-> My thesis should focus on the problem of Compliance.

I regard this moment as crucial for the development of my research topic. It allowed me to change my research project that had grown to a "big and vague monster" to a smaller but "deeper" project with a clear focus on the role of Compliance.

I now believe that it was helpful that I had started my research project with a larger scope and without any clear thoughts about the different types of data and methods that it might require. Only as I followed this route was I able to realise how complex my project actually was. Because I thought about financial crises and regulations in a very broad way, I was able to develop a "two-fold view" on the problem consisting of regulatory quality and compliance.

The development of my research project did not end here. The next entries in my notebook related to the scope of my research project and referred to the title. A page dated 15.03.2014 reads:

Research title practise:

Old:

Why do regulations always fail? An inductive approach to understand potential problems in the interaction of the regulation and regulated companies in the German Investment Industry.

It then contains seven draft headlines and ends with the entry:

Draft seven: Exploring Corporate Compliance in Regulated Industries – The Example of the German Investment Industry.

I must have made this notes during a "RD1 workshop" (a workshop for research students to develop their formal "Research Design Proposal") that I attended in Munich. I recall that we were advised that the name of our research project should ideally be short and that it should frame the scope and capture the main topic. I worked together with fellow-students and we discussed different drafts of our research titles. My discussion ended with "draft seven" and I still use it today.

If I now compare my initial title "*Why do financial regulators always fail? (the case of Germany)*" with my new title "*Exploring Corporate Compliance in Regulated Industries – The Example of the German Investment Industry.*" I see the change in my understanding of a research problem and in how to approach it. My research had a dynamic during my first year of study which I expect to continue.

The development of my critical thinking

The second dimension of this analysis is the development of my critical thinking over the same period. I differentiate "critical thinking" from "more informed thinking". More informed thinking refers to the development of thinking as one learns more.

Critical thinking refers to the ability to challenge one's own ideas perceptions and assumptions. Even though one is able to enhance "informed thinking" and become more expert, this does not automatically mean that one will be able to think critically.

A form of critical thinking was described by Reynolds (1998) as the concept of "critical reflection". Critical reflection originates from the work of critical theorists and is in contrast to problem solving oriented learning processes. Critical reflection refers to an examination of what is taken-for granted (Reynolds, ibid.). In other words, critical thinking can be paraphrased with the simple question. "Do I really know what I think I know?"

I believe that critical thinking is a key skill for all research students. For me critical thinking differentiates an "expert" from a "scholar". I decided to look back at my own development and see if I could identify evidence for the presence and development of my personal critical thinking.

In contrast to the development of a research project and the development of a research method, the presence and development of critical thinking is not clearly visible on the surface of the entries in my notebook. This is the case because "informed thinking" and "critical thinking" may be present simultaneously. To find evidence of critical thinking requires "reading between the lines". The method used to find such evidence within the available data was to look for entries where assumptions were made and then challenged. In the middle of my notebook I found an entry that shows some evidence of critical thinking (unfortunately undated):

Grounded Theory and Law

Is law science?

1. There is a part in the study of law that is about the application of the law on certain cases. This part will deepen the understanding of the existing law, but it cannot discover any new truth. > "Applied Science"

2. There is another part in the study of law where the researcher tries to identify new laws and regulations. This part involves the search for justice. "Justice" in this case is "the truth" that lies out there and must be discovered. > "Science"

However, what is "justice"? Is it a "God given truth"? Or is it a social reality?

This note is hard to understand without its original context. It basically explains the difference between science and applied science in the context of legal studies. I believe that this was a note of a thought that came to mind without any direct connection to my research project. But I still considered it important and wrote it down in my notebook.

The point of interest is that it shows the presence of both informed thinking and critical thinking. Because I learned more about the philosophy of science (e.g. to seek for the truth that is out there) and about scientific research methods (e.g. grounded theory), I began to re-think what I thought I knew. I thought I knew that law is science, but why did I think that and was I correct to think it?

Looking back, I think that the critical thinking in this note was driven by new knowledge that I had obtained. This note is an example that illustrates the way research students can begin to use their new knowledge to question their former knowledge.

Another note that I found, in which both informed and critical thinking is present was dated 23.04.2014 (a time when I was on holiday in China). It reads:

Observation:

In Zhang Jiadie: "Our driver was stopped by the police and he had to pay a fine, because he was not using a safety belt. After he paid the fine, he came back angrily to the car, did not buckle on the safety belt and continued our ride."

- This was a good example of a situation where both punishment and police control were not deterrent.
- Why was this the case? There must be further important factors in play. In this case it seemed that the driver had such strong disagreement with the law that he wouldn't comply with it under any circumstances. Maybe he didn't accept the purpose of the law.

This note reflects that I had obtained (expert) knowledge about the theory of compliance and that I was able to apply it to a random observation that I made during my holiday in China: According to the classical utilitarian theory of compliance, individuals are expected to comply with the law if the risk of detection is high and if sanctions are sufficiently deterrent (Becker, 1966). In this case an individual was caught by a police control, had to pay a high fine (it is not clear how much he really paid, but at least it made him very angry)

and still he did not want to abide by the law. Accordingly, the classical utilitarian theory of compliance failed to explain my observation.

This note reflects that I challenged the truth of this classical theory. I raised the question: Why did the theory not work in this real-life situation?

If I think back, I recall that I had also read other theories about Compliance. These theories take into account an individual's understanding and personal acceptance of a regulation (e.g. Tyler and Jackson, 2013). The review of these theories made me more open to discover examples that could not be sufficiently explained by the utilitarian theory of Compliance. It appears that while more informed thinking alone does not necessarily lead to critical thinking, it nonetheless enhances the probability of critical thinking. I conclude that even if critical thinking seems to be present throughout my notebook, it develops as my knowledge advances. It might have been more difficult to notice this real-life situation of the failure of utilitarian theory of Compliance, if I not had a knowledge of different theories of Compliance.

Unfortunately, the data from my notebook alone cannot only be complete evidence of critical thinking. The data is insufficient to show where and how exactly my critical thinking has developed during the study period. It is likely that the attendance of class-room lectures as well as the interaction with fellow-research students were important moments that fostered my critical thinking ability. That is because lecturers as well as fellow-students often challenge a doctoral student's understanding. The doctoral student then has to look at his or her own ideas from the perspective of lecturers or fellow-students. This "change of perspective" can lead to a new evaluation of existing knowledge and is different from purely "more informed thinking". Such moments can therefore help a student to develop his or her critical thinking. I remember many such moments, but there are no entries available in my notebook that could be used for further evaluation on this topic.

Conclusion

What have I learned from this exercise? If I look at the early entries in my notebook I recall that I had quite a different view of the problem that I aimed to investigate.

I was fascinated by the observation that financial crises occur on a regular basis, even though the financial markets are tightly regulated and controlled. While I thought that poor regulation alone could explain this observation and that a historical review of regulation in the light of the historical financial crises could reveal this correlation, I view this differently today. I now believe that the problem that I observed is only the tip of the iceberg. Compliance to regulation and the subsequent enforcement of regulation seems equally important.

Furthermore, I also have a very different understanding of data and research methods than I had a year ago. I would now approach the same project quite differently.

Overall, reflecting on the development of my research project reminds me of a "Chinese scholar stone". A Chinese scholar stone is a rock with many holes that can often be seen in traditional Chinese gardens. Chinese scholars liked these stones, as they often looked like animals, dragons or small mountains. But if one can see a dragon or a small mountain in such a rock depends not entirely on one's imagination. It also depends on the position

and the angle from which one looks at such a stone. The same stone may remind one of a turtle but from a different angle, the turtle can become a dragon.

I see a certain similarity in how different angles of a Chinese scholar stone can change what we see in them and the development of my research project. While the stone and my research problem didn't need to change, I needed to change the angle from which I view and approach both in order to discover something new.

Figure 3: A picture of a Chinese scholar stone

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A new framework for managing marketing mix interdependencies in the German Foundry Industry

Juergen Wieland
University of Gloucestershire, UK

Daniella Ryding
University of Manchester, UK

Gianpaolo Vignali
University of Manchester, UK

Abstract

Purpose – The aim of this paper is to address two issues facing behavioural interdependencies in marketing mix management: first, to explore behavioural interdependencies between marketing mix variables; and second the proposition of a framework for managing behavioural interdependencies.

Design/methodology/approach – The purpose of marketing mix management as practiced by small- and medium sized enterprises is investigated. Different frameworks define marketing mix management, providing a structured approach to manage the marketing mix. Nevertheless there exists no framework for planning, organising and controlling interdependencies occurring within such a marketing mix. Therefore, this paper explores the different behavioural interdependencies and develops a framework for managing them. This research is based on the constructivist-interpretivist research approach and 12 semi-structured in-depth interviews are conducted with marketing mix managers of German SME foundry enterprises.

Findings – Results show that neither identification of different interdependencies, nor a framework for managing interdependencies and was available. A coherent interdependency framework contributes to SMEs success growth. The findings provide a framework for planning, organising and controlling behavioural interdependencies within a marketing mix.

Research limitations/implications – The developed framework provides an opportunity to investigate to which extent such frameworks is applied in SMEs, including alternative approaches for their management.

Practical implementation – This paper investigates the different behavioural interdependencies occurring with a marketing mix. Furthermore, this paper develops a framework for planning, organising and controlling behavioural interdependencies. In this survey 12 samples of the German foundry industry have been interviewed in depth. This framework is a managerial guide for implementing behavioural interdependencies within a structured marketing mix management approach.

Originality/value – This paper provides empirical research on the identification and definition of behavioural interdependencies. Furthermore, the paper represents an innovative and unique way in managing those interdependencies. Behavioural interdependencies have been studied marketing management literature, but their management have not been fully explored. This paper develops such a model and provides the basis for further research into interdependency management.

Introduction

Within the last three decades marketing mix management in the b2b field changed considerably in character, particularly in research, management and practice. The early idea of transactional marketing is more or less replaced by a relational approach (O'Malley, 2014). In such an approach, many relational interdependencies occur, depending on the marketing mix management context and focus. A challenge of marketers is the management of behavioural interdependencies among marketing mix variables. Even if mix variables might not share the same goal, there behavioural interdependencies share resources and technologies (Antai & Olson, 2013). When applying a structured marketing mix management approach, marketers need the ability to identify these behavioural interdependencies and to manage them appropriately. As a marketing mix plan is associated with different goals, the interdependency management among their variables is a challenging issue. Interdependency management, therefore, has to be included within a structured marketing mix management approach.

Advocates of interdependency management argue that the challenge in marketing mix management can viewed as a strategic process variable insofar, as interdependencies between mix variables can be adjusted through strategy and its design (Killen, 2013). Looking at SMEs of the German foundry industry, they are a homogenous entity with similar market needs and marketing expectations (CAEF, 2013). These companies are faced to a climate of competition, needing to adapt their behavioural interdependencies occurring within the marketing mix variables to facilitate satisfaction of those market needs and expectations. The interdependency perspective shifts the focus from the organisation of solely acting mix variables to an integrated approach with relational acting variables (Nigam, 2007).

The German foundry industry is challenged by high competition and only those can survive, who can establish marketing mix with integrated interdependencies (Van Waterschoot & Van den Bulte, 1992). This is enabled by a framework for managing behavioural interdependencies, enabling German foundry enterprise to establish a result-oriented coordination of mix variables. Furthermore, the precise identification and definition of those interdependencies enables the company to executing and coordinating the marketing mix to realise an optimum level of achievement of the desired marketing targets (Jayachandran, 2004).

Based on an analysis of the literature on interdependency management it is concluded that the elaboration of such a framework has not been realised yet. Nevertheless, there exists a strong need for a clear identification and definition of behavioural interdependencies and the development of a corresponding interdependency management model (Frank, Sommer, & Haug, 2010). Furthermore, existing interdependency management research concentrates very much on a structuralist perspective aiming at a quantitative description of behavioural interdependencies. There exists no literature with practical details for interdependency management of the best practices of SMEs. In other words, present literature on interdependency management is scarce, and shows a serious lack in development of theory. This is the reason why one of the arguments of this research is that such a framework allows a result-oriented interdependency management of mix variables. Particularly, a development of a model,

describing the linkages between planning, organising and controlling behavioural interdependencies are astonishingly weak both from a practical and theoretical point of view. Because of the scarce literature on interdependency management and the need for such a framework, the following research questions are formulated:

- How is the identification and definition of behavioural interdependencies in the literature reflected implicitly and explicitly in marketing management for executing the marketing mix?
- Which are the key steps for enabling German foundry enterprise to establish a result-oriented coordination of mix variables?
- Finally, what implications might this have for the German foundry industries' achievement of desired marketing targets?

Theoretical framework

The importance identifying and defining behavioural interdependencies in marketing mix management is documented (Azoulay, 2002; Lemon & Nowlis, 2002; Pepels, 2011). Pepels (2011) developed a frame of reference, identifying the different behavioural interdependencies occurring between mix variables. This concept is applied by small- and medium sized enterprises to describe the way in which marketers define the interdependencies occurring, in order to realise decision making process of the structured marketing mix management approach. Beside the fact that behavioural interdependencies are examined comprehensively, there is only a sporadic attempt of defining the process for planning, organising and controlling behavioural interdependencies within the marketing mix management literature (see Danaher, 2001).

Frameworks for managing behavioural interdependencies are examined to a very small extent, proposing the optimal marketing mix structure highly depends on the functional form used to model the relationship of the interdependencies (Keegan, 2008). States that the functional form incluence which issues marketers attribute significance to, how they organise behavioural interdependencies, and which how they control the relationships of the interdependencies (Keegan, 2008). For instance, such a framework may consist of the classification, prioritisation and final mapping of behavioural interdependencies, which have to be realised separately (Ketokivi, 2006). Furthermore, the identification and definition of behavioural interdependencies has to behavioural realised beforehand (Zeynalzadeh & Ghajari, 2011), thus critical to understand how behavioural interdependencies are planned, managed and controlled.

According to the literature a framework for managing interdependencies might improve crucial capabilities such as resource allocation and developing the marketing mix according to stakeholders' expectations (Lakshman & Parente, 2008). Furthermore, such a framework enhances "tacit knowledge of interdependencies and for managing interdependencies in an optimal manner to enhance ongoing quickness of the process and its flexibility" (Lakshman & Parente, 2008, p. 324). This pragmatic definition rests upon the understanding of behavioural interdependencies, defined as a relationship in which marketing elements are mutually dependent on each other (Powers & Loyka, 2010). A framework for managing behavioural interdependencies therefore act in the sense that it guides marketers to create a valuable marketing mix and to enables the evaluation of interrelationships of the various subjects in the field (Ailawadi, Lehmann, & Neslin, 2001). In marketing management literature, the concept for managing behavioural interdependencies has emerged recently. This is the reason why there exists a lack of

empirical analysis as to the role of behavioural interdependencies in marketing strategy formulation and its implementation within a structured marketing mix management approach (Bruhn, Schwarz, Schäfer, & Mareike Ahlers, 2011; Chikweche & Fletcher, 2012; Kraft, Dowling, & Helm, 2012; Roberts, Kayande, & Stremersch, 2013; Webb, Ireland, Hitt, Kistruck, & Tihanyi, 2011).

In the investigation of management of behavioural interdependencies, this paper reflects their identification and definition and the crucial steps for a framework, which decision-makers use to manage them. Advocates argue that the marketing department plays a central role in term of interdependency management, influencing the overall business strategy of the enterprise to a high degree (Patanakul & Milosevic, 2006). It is highly important to integrate the top-management within this process, in order to align the overall business strategy with this approach. Furthermore, the influence of interdependency management comes from standardising marketing mix management, inducing it in terms of stakeholder values and standardisation degree (Patanakul & Milosevic, 2006). The role of the marketer in terms of interdependency management is multifaceted, as their influence not only encompasses organisational structures with the German foundry industry, but also knowledge management, the steps necessary for interdependency management, not only for marketing, but also for daily business (e.g. project management) in general (Bailetti & Callahan, 1995; Hutt & Speh, 1984; Patanakul & Milosevic, 2006) The central notion of this paper is therefore that the marketer influences greatly the overall business strategy. From an internal point of view, the knowledge, experience and ideas of the marketer influence interdependency management and thereby the marketing strategy. From an external point of view, they also hold experiences about stakeholders' expectations, competitors' behaviour and supplier performance and thereby apply processes manage interdependencies (Homburg, Artz, & Wieseke, 2012; Jakobsson, 2007). Thus, another central notion of this paper is therefore that the interdependency management framework has to act as model efforts to understand, plan, organise, lead and control marketing processes towards exceeding stakeholders' expectations (Kumar, Meenakshi, Rao, & Reddy, 2012). This approach is consistent with management literature, where theories of interdependency management are reflected to be useful in the classification, prioritisation and mapping of interdependencies (Bailetti & Callahan, 1995; Frank et al., 2010; Jayachandran, 2004; Patanakul & Milosevic, 2006). Thus, the aim of this paper is to find out, which key steps are necessary for enabling German foundry enterprise to establish a result-oriented coordination of mix variables and what are the implications for the German foundry industries' achievement of desired marketing targets?

Framework for managing behavioural interdependencies

It has long been recognised that marketers might use synergies between mix variables to customise the marketing mix according to stakeholders' expectations. In this, the management of behavioural interdependencies plays a central role in allocating resources efficiently, respond quickly to competitors' threats, and enhance overall business performance. Possessing the necessary knowledge for managing behavioural interdependencies in order to manage and adapt the marketing mix is indispensable (Frank et al., 2010). Each step of such a framework is affected by the marketers' ability to handle the mix accordingly (Bruhn et al., 2011; Chikweche & Fletcher, 2012). In line with current literature, it is proposed, that interdependency management, can be separated into following steps: 1.) analysing and prioritising relevant mix variables 2.) classifying, mapping and controlling their interdependencies 3.) optimising the marketing mix (Fang, Russell, & Singh, 2014; Varey, 1995). This concern how mix variables with their

interdependencies are identified and defined, the possession of necessary knowledge to apply such a framework, how the marketing mix is optimised a necessary changes are included (Fang et al., 2014; Tellis, 2007; Viswanathan, Sridharan, Ritchie, Venugopal, & Jung, 2012). The model presented in this paper is based on these three stages. Nevertheless, in comparison to frameworks of other management areas (e.g. project management), which present interdependency management as a linear process, this paper assumes that the process is cyclical, each step influencing the other ones'. In this, a central notion of this framework is that marketers' knowledge influences not only interdependency management, but also the structure of the marketing strategy (Fang et al., 2014; Logman & Pauwels, 1998; Naik, Raman, & Winer, 2005; Shoham).

In this, the know-how of the marketers will affect their awareness about the standardisation of a marketing mix management strategy. Furthermore, learning about interdependency management with such a framework helps the marketer to realise change-management and thereby to develop the necessary adjustments according stakeholders needs (Giannakis & Harker, 2014). Therefore, in this paper it is proposed that marketers' learning about interdependency management affects controlling and change management activities (Naik et al., 2005). The way how marketers realise controlling / change management depends primarily on the overall business strategy; but in terms of the marketing strategy it focuses on 1.) performing the necessary service procedures with regard to the affected mix variables and 2.) to practice marketers with regard to implementation of appropriate changes (Lehmann & Winer, 1997). Therefore, in this paper a cyclical framework for interdependency management is proposed, serving as a basis to manage interdependencies. This helps also to get in investigating the logics in terms of the interdependency management process. The framework should be understood as a methodological and practical tool for the the classification, prioritisation and final mapping of behavioural interdependencies.

Figure 1: Framework for managing behavioural interdependencies
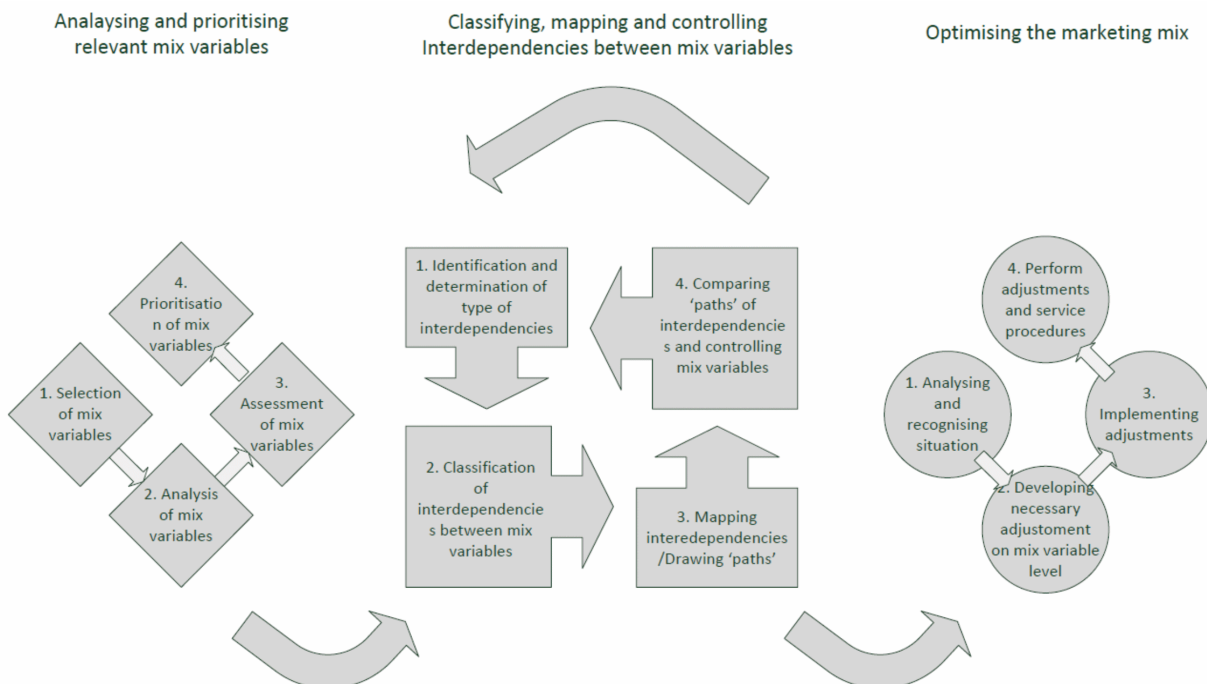
For the application of this framework, it is mandatory that the marketer possess profound knowledge about the application of a structured marketing mix management approach.

Therefore, this framework is build-in with a structured marketing mix management approach.

Analysing and prioritising

Marketing mix managers face a constant stream of information, both from internal and external environments (Proctor, Butcher, & Read, 2008). The step of analysing and prioritising mix variables depends on the interdependency effects, what manifests itself in the concept of structured marketing mix management (Naik et al., 2005). A number of writers have noted the challenges of analysing and prioritising relevant mix variables (Kuehn, 1962; Naik et al., 2005) that are central to interdependency management "emphasises that marketing efforts create sales synergistically rather than independently" (Gatignon & Hanssens, 1987, p. 247). Since the selection and analysis of relevant mix variables is a complex issue itself, they have to behavioural implicitly identified and defined for simplifying the complexity (Marques, Lacerda, Camargo, & Teixeira, 2014). The identification and definition of relevant mix variables has to main tasks – an information gathering task and a selection task – defining the implications of the selected mix variables and establishing/assessing their importance (Rimbach, 2010). Several marketing studies have demonstrated the significance of establishing/assessing the importance (Gatignon & Hanssens, 1987; Kuehn, 1962; Naik et al., 2005). The marketer therefore has to gather information in terms of internal and external environment. This is reinforced by aligning the interdependency management task according to the marketing strategy (Gatignon & Hanssens, 1987). Thus the framework is interlinked to the structured marketing mix management approach; the assumption that (internal and external) mix variables' selection and information gathering analysis (Club & Branch, 2011) are fundamental issues; analysing the mix variables is triggered by the mix variables' selection (Vignali, 1994); this than results in their prioritisation (Wilson, Johns, Miller, & Pentecost, 2010); finally, issues that mix variables deal with are prioritised and interpreted (Rimbach, 2010).

Classifying, mapping and controlling

Once the marketer has analysed and prioritised the mix variables, they have to be classified "by specifying what is known about the behaviour" (Zeithaml, 2012). After having prioritised the mix variables' selection, they are classified by providing a brief description of the proposed changes within the mix variables selected (Haughton, 2014). At this point, also the possible impact of mix variables, disposition of involved parties (Naik et al., 2005) and alignment within the structured marketing mix management approach (Nandan, 2005) is a central role for assuring success when realising the set actions. An identification and definition of the different types of interdependencies are the basis for determining the interdependencies occurring between the mix variables' selection (Ailawadi et al., 2001). Ailawadi et al. (2001) critically adds that the classification of mix variables depends very much upon the experience, the marketer holds about interdependency management. Fruchter and Kalish (1998, p. 22) underlines this proposition, stating due to "the limitation of current studies to take into account the interactions among the different instruments", challenging problems arise. A functional identification and definition of the different types of interdependencies is provided by Pepels (2011, p. 358), stating that interdependencies should be classified.

1. supportive interdependencies (supporting other mix variables, creating mutually beneficial effects)

2. replacing interdependencies (substituting other mix variables, both positively and negatively)
3. conditional interdependencies (mutually depending mix variables, existing at same time)
4. competitive interdependencies (competing mix variables, drive each other forward)
5. synergic interdependencies (effecting mix variables, together the effect is higher than separately)

A number of number of research have tried to address some of the issues of determination and classification of interdependencies, addressing that product mix variables may influence price mix variables directly, but it could also affect stakeholders' sensitivity (Grönroos, 2011; Pepels, 2011). Once, interdependencies are identified and classified, the marketer is then concerned in terms mapping the interdependencies. In this, the path, generated by a map, depends on the behavioural interdependency and is highlighted with different symbols. Afterwards, the drawn paths are compared and analysed, whereas the cyclical process of classifying and mapping concerns the final controlling of the behavioural interdependencies. The controlling might be realised in assistance with controlling department, realised through a request on information or other concepts provided by the marketing department (Rossiter, 2001). It is suggested that map and control interdependencies might provide "substantive differences in optimal behaviour and hence managers should plan their marketing-mix differently depending on the presence or absence of such effects" (Naik et al., 2005, p. 3). This is the reason why the use of such a framework cannot be separated from optimisation process, within which the marketer takes corrective actions and creates future knowledge (Naik et al., 2005). Thus, the optimisation enables the marketer to perform necessary procedures on the mix variable selection and thus affecting the marketing strategy.

Optimisation

The application of optimisation leads to the development of tasks, where the marketer analyses the situation and develops necessary adjustments for the interdependency management's needs (Griffith & Hoppner, 2013). These tasks have to be developed in accordance with the marketing strategy and aligned to the overall business strategy. The very actions in terms of the adjustment task create responses according to the mix variables selection: responses to new stakeholders' and changing market requirements are provided by selecting according mix variables. This than feeds again the first step – analysing and prioritising – completing the cycle. These processes occur within the structured marketing mix management approach: assumptions about the implementation of active market activities and the marketing concept itself (Pepels, 2011). The interdependency management framework as part of the structured marketing mix management approach provides a framework, actually representing a challenge (Gatignon & Hanssens, 1987). As Naik et al. (2005, p. 3) notes: "a challenge which we see for a future direction is to develop a model which incorporates interactions between instruments". The optimisation task not only defines the implementation of necessary adjustments, but also how to perform the adjustments and service procedures (Richter, 2012). On this basis, the paper proposes that optimisation is inherent part of interdependency management, whereas this step does not exist in a linear relationship, but interacts with each step of the interdependency management framework. Finally, the optimisation activity provides fundamental assumptions about the performance of mix variables in order to "take any remedial action required […] in the most effective and efficient way possible in achieving the objectives" (Mockler, 1970, p. 14). In this, the

proposed framework allows the marketer to see how interdependencies affect each mix variable.

Methodology

Data collection

Data collection has been realised through 12 semi-structured in-depth interviews. Therefore, marketers of small- and medium sized German foundry enterprises have been selected, because little is known about interdependency management of SMEs in this particular industry (Frank et al., 2010) of the German foundry area, particularly small- and medium sized enterprises, according to present estimations not more than 60 marketing mix managers are employed (CAEF, 2012). This is the reason why the 12 selected interviewees of this study provide a representative sample. The choice of the German foundry industry was driven by the desire to choose those, that represent the industrial elite' in Germany with 46000 specialists employed, ranking 1st among high-technology machinery producers worldwide (CAEF, 2012) . This particular industry has high levels of marketing content and therefore offer the potential of the defined marketing environment by Frank et al. (2010) in their description of the dominant logic of interdependency management in innovative industries. Frank et al. (2010) reflects in his study particularly b2b enterprises with industrial goods. Table 1 provides an overview of the interview subject population.

Table 1: Interview subject population

Source: developed for this research

Number of participants	12
Job level	4 Senior marketing managers 1 Chief marketer 3 Consultants 5 Principal marketing mix management experts
Status	10 Staff 3 External consulting companies
Experience in marketing mix management	3 10 and more years 11 8 and more years 12 5 and more years

The twelve participants were selected on the basis that they had either managed or been directly engaged in marketing mix- and interdependency management activities of German foundry enterprises. Their job titles ranged from senior marketing managers to consultants. The research sought to study the various tasks of interdependency management on the basis of everyday decision making of these marketers. This research focused on providing a framework for planning, organising and controlling behavioural interdependencies within a marketing mix. By uncovering marketers' experience this research is able to find out, how such a framework has to be developed. Using the framework developed in Figure 1, the interviewees were posed questions about interdependency management and the identification of behavioural interdependencies. In order to cover all topics identified in this research, a semi-structured approach has been selected. All participants were asked if they were in agreement with the interview being recorded with an electronic voice-recorder, following the suggestion of Saunders, Lewis, and Thornhill (2009, p. 191), who note that the presence of such a tape recorder might raise concerns of anonymity and confidentiality of the participants.

Data analysis

For this research, the constructivism methodology has been applied, as the researcher is interested in the participants' ideas, values and perspectives of the complexities (Creswell, 2003)) underlying in interdependency management of the German foundry industry. According to Lincoln and Guba (2000), constructivism defines truth as a particular belief system in a specific context. Constructivism focuses on inquiries about the ideologies, values and beliefs, that lie behind a research finding, an which are impacted by the view, that reality in fact consists of numerous realities that individuals have in their mind (Healy & Perry, 2000). As constructivists seek an understanding of the world in which they live and work, this methodology can be seen as appropriate for this research. The nature of this research is exploratory and involves gathering and collating the perspectives of a small group of marketers. Consequently, it is well-suited to the qualitative methodological focus of the constructivism paradigm. In this, existing theorisation were not rejected, but intended to be integrated for ensuring a plurality of perspectives in terms of the research methodology. Rather than adopting a purely open interview technique, the interview was guided around broad topics defined in the literature (Tollin & Jones, 2009). Therefore, the predefined categories in the proposed framework for interdependency management were used (1. Analysis and prioritisation; 2. Classification, mapping and controlling; 3. Optimisation). The coding scheme was developed around these predefined categories. In this, the predefined categories acted as a methodological tool for asking questions (Tollin & Jones, 2009), but remained constructivist in the data. Themes, emerging around these pre-defined topics, using the five step qualitative data analysis approach of Sarantakos (1998, p. 321), were analysed (1.Transcription; 2. Checking and editing; 3. Analysis and interpretation; 4. Generalisation; 5. Verification). Consequently, the data analysis process started by using the digital audio files of the interviews as basis to extract the information, and were then transcribed verbatim (238 transcribed pages). Thereafter, the data of the interviews there underlined and arranged into the pre-defined categories. For each of these categories, different sub-categories were designed, seeking the identification of major trends within the interviews. The aim was to break down the data into ideas relating to the three categories defined in the proposed framework for managing interdependencies. In this way a much more detailed picture of the transcripts was generated, as opposed to unwittingly imposing consensus on the data by stating "this is how it is or appears" in too simplistic or univocal terms (Creswell, 2003, p. 149). Afterwards, relationships between these categories were identified. The output of the analysis was a condensed version of the data. Reis and Judd (2000) critically concede that the coding scheme also provides the researcher with the opportunity to get an overview of the potential impact of the developed research questions.

Findings

In the explorative analysis of this research, it has been found out that interdependency management has a dominant logic. Based on the literature review on interdependency management and the insights provided by the interviewees it has been found out, that the views and ideas, of what interdependency management consists of, tend to the same conclusion. Thus, the findings show that the tasks and key issues are identical to a high degree. Having found little evidence in current literature of what interdependency management consists of, being part of a structured marketing mix management approach. Furthermore, the interviews show commonalities in terms of their responses, particularly in terms of the key issues and tasks of interdependency management, whereas three categories emerged: 1.) analysing and prioritising relevant mix variables; 2.) classifying,

mapping and controlling interdependencies; and 3.) optimising marketing mix. Generally, marketing mix management in SMEs differ in that from large operations (LO), particularly in terms of management capabilities, organisational structure and marketing structure (Richter, 2012). In terms of small- and medium sized enterprises, the following dichotomies appeared as representing two major discriminating dimensions:

6. Interaction versus interdependency management
7. Isolated versus integrated interdependency management

This section begins with a discussion on interaction and interdependency management and ends with a discussion of the three emerged categories necessary for a framework for managing interdependencies.

Interaction versus interdependency management

For the discussion, expressions, definitions and statements have been extracted in current marketing literature and are presented in Table 2.

Table 2: Definitions of interdependencies and interactions

Author	Definition
Powers & Loyka (2010, p. 294)	**Interdependency** is "a relationship in which elements are mutually dependent on each other"
Grönroos (2011)	**Interdependent** relationships arise between two or more cooperative autonomous elements… The focus on two elements is reliant and preferable
Fok, Paap, and Franses (2003)	**Interdependencies** are conducive to the behaviour and cost of both marketing mix elements
O'Cass (2003)	Sub instruments are always **interdependent** rather than interactive and elements never act in an isolated manner
Grönroos (2011, p. 349)	**Interaction** is defined as a "kind of action that occurs inside the marketing mix, if two or more elements have an effect upon one another"
Chettry & Eriksson (2002)	**Interaction** precludes the one-way 'causal' effect but instead defines a two-way effect
Grönroos (2011)	An **interaction** only benefits form one element

This means that individual interdependency management and interaction management framework and their current definitions are extracted, representing a common theme appearing in marketing mix management. As the name of this section suggests, it was found that interaction management and interdependency management is an overriding issue, without a clear definition and differentiation. Many marketers address interdependency management issues as interaction issues, without differentiating between them both, thus resulting in confusion. This seems to be a huge reason, why despite the relationship and organisation of interdependencies, none of these definitions appear to have been fully considered in interdependency management, respectively in marketing mix management. A central tension in the definition of interdependency management is that interdependencies have a great impact on the successful application of a marketing mix management concept and thus on a company's success (Hartmann, 2010). In this context, Powers and Loyka (2010, p. 294) state that an interdependency is "a relationship in which

elements are mutually dependent on each other". Shultz (2009) argues that the rationale behind the study of interdependencies of the marketing mix elements is to identify relationships between them, to plan, structure and monitor them. This is the reason that by structuring interdependencies, relationships may arise between two or more cooperative autonomous elements (The focus on two elements is reliant and preferable) and thereby companies gain competitive advantage in primary and support activities of the value chain (Grönroos, 2004). Hanssens, Parsons, and Schultz (2011) argue that the distinctiveness of interaction effect (benefits from one element) is to provide a 'missing link' between company's' decision level for one marketing mix variable and the sensitivity of the marketing department. The concept of interaction management has been central in many definitions, precluding the one-way 'causal' effect (Chetty & Eriksson, 2002) and providing instead a definition of a two-way effect. This includes the linkage of interactions in systems, as combinations of many simple interactions can lead to surprising emergent phenomena (Pepels, 2011). The qualitative differences of interaction and interdependence are discussed by Fok et al. (2003), stating that interactions only benefits one element, while interdependencies is conducive to the behaviour and cost of both marketing mix elements. This is the reason why recent marketing literature favours clearly the interdependency management definition, demonstrating that interdependencies are always interactive, never acting in an isolated manner.

Isolated versus integrated interdependency management

The interviewed marketers talking about integrated interdependency management demonstrated an almost exclusive focus, discussing the isolated management of mix variables, concluding that interdependency management has to be conducted in such a way, that it benefits to each marketing mix variable. For the integrated management of interdependencies the quantity of interdependencies should be in consideration, because particular elements of marketing mix variables facilitate the interactivity (Naik et al., 2005). When talking about this issue with marketers, this issue stand at the top of their agendas, stating that "You cannot manage the interdependencies in an isolated manner. […] Therefore, the boundaries on how to manage and arrange the different policy interdependencies have to be defined very clearly, so they do not get blurred, and in my eyes this is very different to a 'master-servant' model". In this particular case, interdependency management has to be very structured, as "structured approach you can develop many different ideas on how to serve the stakeholder, and you are able to develop product and price related strategies". However, the role of isolated interdependency management is seen merrily as "focusing on […] sub-instruments that compete with each other". It emerged that the isolated view cannot be seen as a strategic management of marketing mix variables, but much more as a lose "selection of sub instruments". As opposed to the isolated management of interdependencies, the result-oriented coordination of marketing mix variables "hits the target when you have arranged the instruments in such a way that stakeholders' demands are satisfied". Thus, the field of influence on realising integrated interdependency management relates to the result-oriented coordination of marketing mix variables by providing the marketers a framework with:

- A guideline on "how to manage and arrange price and product interdependencies". "Besides that, the product policies have to be structured to a high degree in order to structure the pricing elements thoroughly".
- A plan, requiring "that we first of all carry out an analysis of the relevant sub-instruments. […] And then to find out which types of interdependencies exist, how

they are correlated, how they can be planned. […] Finally, monitoring also has to be implemented".

Interdependency management framework

Analysing and prioritising

The essence of analysing and prioritising mix variables is captured in the following statement: "You need a description of each of the interdependencies to implement the approach adequately. […] It would meet the requirements of the stakeholders in all aspects" and "You have to select the sub-instruments adequately, and you have to analyse the impact of the interdependencies. […] An up-to-date analysis of the current situation is necessary, and a projection of what you eventually would like to achieve". Later on when this quoted marketer from the German foundry industry talked about interdependency management, it was evident for him that this issue is all about analysing and prioritising marketing mix variables within the interdependency management process. Another interviewee, who also emphasised the importance of analysing and prioritising marketing mix variables, emphasised that a "transparent definition of the relationship of the sub instruments is vitally important" for analysing the current situation efficiently, confirming that "the more similar interdependencies; the more attractive is the process of structure". The marketer works for a captive foundry within the German foundry industry, and for him, the key issue for analysing and prioritising interdependencies is to "dissect this process into various steps and separate these into manageable chunks". The analysis and prioritisation of interdependencies between marketing mix variables was undertaken by four interviewees, concluding that this represents a key task area, not only for interdependency management, but also for a structured marketing mix management approach. The focus on analysing and prioritising is on the:

8. "selection of your sub instruments"
9. "assessment of the sub instruments"
10. "transparent assessment of similarities"
11. "specification of […]interdependencies has to be as open and as transparent"
12. "the model has to […] prioritise them"

Classifying, mapping and controlling

According to this category, which is represented by marketers of the German foundry industry in this research, the classification and controlling is a key issue and depends highly on the management of interdependencies occurring between marketing mix variables. In terms of classifying the mix variables, there was a general consensus among the interviewees that it is much better to concentrate only on few synergic and interdependent marketing mix variables ("The way you have to look at it is that only particular sub instruments are important for success"), rather than selecting to many, "as the risk of failure increases significantly". The background for this explication is explained as follows: "There are conditions that have to be observed in order to ensure that the interdependencies interact in a synergic manner. Each of the sub-instruments has to support another one. […] There is a huge difference between planning and managing the sub-instruments, also between planning the interdependencies and managing them". According to another view, the mapping of interdependencies is realised by classifying them: "You need a step where the interdependencies are mapped by classifying them" and unlike the previous view, it is explained much more in a structural way, as this step

"necessarily has to be driven by the external environment". The marketer, providing this view, has not the authority to analyse the marketing environment, as corporate communications does. As stated, this "factor highly impacts the success of the marketing mix management activity". As this view is supported by another interviewee ("An up-to-date analysis of the current situation is necessary"), the analysis of internal and external environment is included as a separate step within the classification task. Additionally, another key issue is to realise "a projection of what you eventually would like to achieve", considering the mapping of interdependencies. Therefore, before mapping interdependencies and drawing paths, a separate step is included as to what the German foundry industry is encouraged to achieve. "What is left is to […] to monitor the interdependencies" whereas, "this can be implemented, for example by a specified procedure". The interviewees confirmed the proposed task of optimising the marketing mix, adding the following knowledge:

- It is important to define the similarities, first of all, regardless of the fact that interdependencies can never be managed by the marketer in an isolated manner.
- The description has to be very explicit, transparent and concise […]. Managing the instruments adequately is not as easy as it sounds.

Optimisation

The logic apart from the previous two steps is that this key task integrates is integrative part of a structured marketing mix management approach, as not only mix variables are optimised, but also adjustment and service procedures are performed. When a marketer talked about why optimising the interdependencies of marketing mix variables, it became evident that they conceive many mix variables as "practically mandatory", and therefore "employing an optimisation procedure" becomes mandatory. The aim of this task is to "prevent errors" and "if possible, foresee problems". Like this marketer, another emphasised the need for an optimisation process, as it "may have a ripple effect across the organisation and your activity". Thus, quite another perception about what this key task is concerned with, the step is all about:

- "The hierarchy of optimisation authority has to be determined"
- "In the end you need one person in charge"
- "Point out any mistakes that have occurred in order to prevent them from recurring"

This is the reason, why a separate step on "how to avoid […] problems in the future" is defined and a step for taking corrective actions is "integrated into this process". Therefore, it is necessary to "define how closely the process should be supervised" and the hierarchy of this is determined.

Interdependency management capabilities

After having identified the three emerged categories necessary for a framework for managing interdependencies, it is now time to discuss its implications on a structured marketing mix management approach and its implications on the German foundry industries' achievement of desired marketing targets. In this paper it is argued, that for successful interdependency management, it is mandatory to develop key capabilities and subject-knowledge, and much more the possession of necessary knowledge to apply such a framework. In the literature, capabilities are defined as "the integrative processes designed to apply the collective knowledge, skills, and resources of the firm to the market-related needs of the business, enabling the business to add value to its goods and services and meet competitive demands" (José, Paul, & Mats, 2002, p. 48). Therefore, Samiee and Roth (1992) concludes that these capabilities have a direct impact on the firms' ability to develop and utilise an interdependency management framework. Furthermore, subject knowledge is defined as the subject's acquisition of information and skills (Aremu & Bamiduro, 2012), possessing also profound knowledge and understanding of the causes and reasons for the application of an interdependency management framework (Frank et al., 2010). From this follows that knowledge about interdependency management and its impact of industries' achievement of desired marketing targets is mainly driven by understanding what interdependency management is concerned with and the contribution it can make to the further development of organising a marketing mix to exceed stakeholders' expectations. Furthermore, a general notion in marketing mix management literature is that most marketing mix managers do not know about the existence of interdependency management, or the opinion, that interdependency management would not be necessary for the company or the marketing strategy or, there is no information about the existence of interdependency management available (Frank et al., 2010). This is the reason why the question raised, why marketers do not possess such core capabilities. Frank et al. (2010) concluded that many companies think that the arrangement of the marketing mix is too time consuming or cost intensive, and with that, interdependency management. Effective interdependency and marketing mix management enables companies to build strong customer relationships and create value for their customers and for themselves (Kotler, 2009) and thereby, this business tool is vital in order to succeed in the globalised market (Brooks & Simkin, 2012). In conclusion, therefore, this paper inclines to agree with Frank et al. (2010), that it is vital to conduct a comprehensive and applicable marketing mix with result-oriented interdependency management. Much more, it is a mandatory component of the overall marketing strategy for German foundry enterprises. Consequently, the critical issue not only lies on identifying and defining behavioural interdependencies, and the result-oriented coordination of mix variables, much more it lies on ensuring effective use of capabilities and providing knowledge about interdependency management. Therefore, this paper proposes to highlight the differences between 1.) Core capabilities and 2.) Knowledge management. Core capabilities ensure that marketers can effectively apply collective knowledge, skills, and resources in interdependency management terms, enabling the business to add value to its goods and services and meet competitive demands (Waheeduzzaman, 2011). Additionally this includes capabilities about the overarching marketing mix management process and detailed knowledge about other business processes such as controlling, change management and optimisation management. This includes much more capabilities particular knowledge about competitive environment, market segmentation and standardisation management. In this, knowledge management is ensured by capitalising on organisational intellect and experience (Antai & Olson, 2013), ensuring that the information interdependency management is available in an easily digestible format to

employees across the organisation (Nicolas, 2004). Other relevant factors are added by (Verona, 1999), stating that other relevant capabilities include strategic marketing management and marketing-mix policies. The overall capabilities in terms of marketing mix management and marketing-mix policies are provided by its imperative concept also referred to as the set of controllable tools that the firm blends to produce the response it wants in the target market. Thus, it is proposed that for the German foundry industries' achievement of desired marketing targets core capabilities about marketing mix management are mandatory. This includes, that "a function needs to be established which sets parameters for the success" (interviewees response), thus ensuring that corporate level marketing function are involved with (Tollin & Jones, 2009). Activities such as market segmentation and competitor analysis, but also optimisation management, all these activities have to be aligned with the marketing mix management process and the overall business process. In optimisation management, for example, is a cornerstone of interdependency management, as it is performed when necessary and to the degree required, providing the highest interdependency management benefits (Dutta & King, 1980). Therefore, it is argued that optimisation management needs to reflect the present status, future change and development of countermeasures. This is the reason why each of it requires a separate set of core capabilities: analysis of present situation and focusing on innovation, interconnectivity and development. The development of these capabilities has to be aligned with the requirements of the stakeholders. This is reflected in the marketing literature, where interdependency management is a bridge between various functions, accounting for the "interactivity trade-offs in allocating the marketing budget" (Naik et al., 2005, p. 3). That is, why for the achievement of desired marketing targets interdependency management is mandatory, focusing on incorporates interdependencies between marketing mix instruments (Naik et al., 2005). The impact of this activity is most clearly seen, where marketing-mix plans specific to their market conditions are determined. And this, in return, is based directly on the interdependency management framework, where, in the presence of interdependency effects using market data, the marketing mix is developed. This is supported by the view that for planning marketing-mix strategies in equilibrium for dynamic competitive markets, interdependency management is indispensable (Eliashberg & Jeuland, 1986).

Conclusions and discussions

This paper explores identifies and defines behavioural interdependencies and establishes a framework for managing those interdependencies occurring between marketing mix variables, as proposed by Naik et al. (2005). Furthermore, the implications of a framework for managing interdependencies for the German foundry industries' achievement of desired marketing targets are explored. For doing so, in this paper a cyclical framework for interdependency management is proposed, serving as a basis to manage interdependencies. Based on this explorative analysis, this paper supports the idea of a dominant role of interdependency management within a marketing strategy, as proposed by Frank et al. (2010). The results of this paper clearly indicate that for realising the interdependency management activity, core capabilities such as optimisation management and knowledge-management are vital for the success of this activity. The findings of this paper clearly indicate that interdependency management is a highly relevant task within the marketing mix management approach. In terms of the interdependency management framework, this paper concludes that it vitally important to possess the required knowledge for carrying out the interdependency management process and that it is highly important for companies' marketing strategy. In this vein, the findings indicate that the interdependency management framework within the German foundry industry is

characterised by three main tasks: 1.) analysing and prioritising relevant mix variables 2.) classifying, mapping and controlling their interdependencies 3.) optimising the marketing mix (Ney, 1999; Varey, 1995), that marketers are concerned with. Furthermore, this paper approves the important role of interdependency management in terms of the overall business success, providing furthermore significant results about the role of interdependency management and the way, in which it is developed in German foundry enterprises today. The optimisation has a dominant role within the interdependency management framework, as it "may have a ripple effect across the organisation and your activity". For realising so, the "hierarchy of optimisation authority has to be determined" clearly, aligned to the overall business strategy. This is the reason, why, based on the findings of this paper, all of these factors are relevant for the interdependency management process. As Marques et al. (2014) notes, the selection and analysis of relevant mix variables is a complex issue itself, and is affected by behavioural interdependencies implicitly identified and defined for simplifying its complexity. Furthermore, it is affected by internal and external factors of the company. Several marketing studies demonstrated the significance of establish and assessing the importance of marketing mix variables (Gatignon & Hanssens, 1987; Kuehn, 1962; Naik et al., 2005), gathering therefore information in terms of internal and external environment. The findings of this paper indicate that the interdependency management process is reflected across other industries. Nevertheless, this proposition has to be tested in future research. The didactic behind the proposed interdependency management framework, further, clearly has to be separated in the way in which marketers perceive interdependency- and marketing mix management within the organisation. Much more, in terms of reflecting the present status, future change, development of countermeasures, the future direction of companies' success is programmed. The results clearly indicate that the interdependency management process is based overarching marketing strategy and its optimisation process, internally providing necessary knowledge and resources and externally to manage the company according to stakeholders requirements and competitors influences. As discussed in this paper, the focus on these issues helps the company to be sighted in terms of its environment. From a marketing strategy perspective, changes in internal and external environment have to be tracked, as it strengthens the company, particularly in a fast-changing market. Much more, it enables the company to react quickly to a fast-changing environment. This is also interesting in terms of development of countermeasures, because with this marketing changes to a strategic function of the company. After the identification and definition of the three main tasks, driving the interdependency approach, the interdependency management capabilities and its implication on a structured marketing mix management approach have been investigated. This was driven by the investigation, how the interdependency approach implies on the German foundry industries' achievement of desired marketing targets. It was found, that for successful interdependency management, the development of key capabilities and subject-knowledge is mandatory. Further, it was found out, that the interdependency management framework impacts directly German foundry industries' achievement of marketing targets and thereby is linked with the overall business strategy. Therefore, it can be concluded that the realised interdependency management of marketers reflect partly the idea of the overall business strategy. This leads to the assumption that key capabilities of marketers impact the ability of German foundry industries' achievement to achieve their marketing targets, particularly because key capabilities and core competencies increase the success of such an activity. According to the literature a profound knowledge and understanding of the causes and reasons for the application of an interdependency management framework (Frank, 2010) is vitally for its success. In this, interdependency management has to be carried out integratively and

simultaneously with a structured marketing mix management approach (Kotler, 2009; Naik et al., 2005; Patanakul & Milosevic, 2006). For proving marketing mix managements' role, marketing literature clearly advises to approach marketing mix tasks in a synergic manner (Gatignon & Hanssens, 1987), using the multidisciplinary perspective provided by interdependency management (Naik et al., 2005). For doing so, organisational intellect and experience (Duffy, 2000) has to be capitalised. The incorporation of knowledge management helps to realise change management and optimisation management, leading to better communication and faster product innovation (Kotler & Caslione, 2009). In this consideration, for the achievement of marketing targets "a function needs to be established which sets parameters for the success" (interviewees response). Marketing theory shows that setting clearly defined functions and communisation are essential, as marketers have to understand the logics of decisions realised by others. From an interdependency management point of view, clear setting of function is vital, as interdepartmental cooperation and communication is high. For instance good interdepartmental cooperation to research and development provides fruitful insights for product innovation and development (Kotler & Caslione, 2009). The interdepartmental cooperation depends very much on the organisational structure (Richter, 2012) and decision making process of general management (Pepels, 2011). This is exacerbated by the fact that the decision making process of general management should be a collective action, which implies the creation of collective knowledge, driven by knowledge management (Nicolas, 2004).

Limitations and future research

Based on the explorative analysis of this paper, it is important to further investigate and validate its findings. In this, further investigation of interdependency management in other industrial sectors is needed. Furthermore, standardised marketing mix variables help marketers to realise interdependency management (Pepels, 2011). For doing so, marketing mix variables might be identified, defined and standardised within a framework. The aim of identifying and defining marketing mix variables is to provide a clear set of controllable tools, that the firm blends to produce the response it wants in the target market. Investigating interdependency management in other industrial sectors is a fruitful expansion for validating the findings of this study, particularly the occurrence of the three defined interdependency management tasks. In this, the joint consideration of interdependency effects and strategic foresight in planning marketing-mix strategies, provided by Naik et al. (2005) might be fruitful. However, for realising interdependency management much more successfully, a framework with identified and defined marketing mix variables has to be elaborated. In developing such a framework, the identified and defined marketing mix variables of Pepels (2011) might be a helpful and inspirational resource. The reason therefore is that Pepels (2011) intends to standardise marketing mix variables is such a way, that the application of an interdependency management framework is realisable and manageable. The findings of this paper clearly show that interdependency management, as practiced by small- and medium sized German foundry enterprises is far from an integrated approach, as proposed in parts by Danaher, Hardie, Putsis, and William (2001). Definitively, the results of this paper indicate that some marketers think, that interdependency management would not be necessary for the enterprise, or they do not possess the required knowledge to carry out such an approach. The significance of these findings is that there isn't the question, whether it is necessary to it out or not. Much more, general management of German foundry enterprises have to teach there marketers, showing that without doing interdependency management, resources are allocated inefficiently, marketing cost increase significantly and stakeholders

requirements aren't fulfilled effectively. This is the reason, why with interdependency management the enterprise is able to act innovative and proactive, rather than in a reactive and isolated manner (Tollin & Jones, 2009). Therefore, it is suggested that, for doing so, 1.) Internal and external factors have to be analysed; and 2.) Interdepartmental cooperation and communication has to be ensured. This initiates in the mind of general managers, followed by head of marketing and ends with the marketers. Therefore, another question for future research is to find out, 1.) How this communication process in interdependency management can be ensured and 2.) How this challenge can be realised, initiating with general management.

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