2011

Capacity Rationalisation and Exit Barriers in the Irish Printing Industry

Kathleen Hughes
Dublin Institute of Technology, kathleen.hughes@dit.ie

CAPACITY RATIONALISATION AND EXIT BARRIERS IN THE IRISH PRINTING INDUSTRY

Gerard Cooley
Gcooley@wpg.ie
Wood Printcraft Ltd.
Malahide
Dublin 17

Kathleen Hughes
Kathleen.hughes@dit.ie
Lecturer in Marketing
College of Business
Dublin Institute of Technology
Aungier St.
Dublin 2
T: 01 402 3281
Author for Correspondence

ABSTRACT:

Decisions regarding capacity and capital investment are among the most critical for firms, as reflected in the extensive literature devoted to this subject. However, substantially less work has been carried out on the decision to disinvest. This is unfortunate as in some situations, such as recessionary times, the main competitive moves pertain to disinvestment, rather than investment. This study aims to contribute to this subject, in particular it aims to identify why industries with a concentrated structure can when proactively rationalise when required, while fragmented ones cannot.

Research methodology a case study approach, comprising in-depth interviews with six industry experts from the Irish printing industry. This aimed to explore the reasons for the excess capacity in this industry, the impediments to rationalising, and to explore whether any potential solutions to the capacity issues in the industry could be identified. The findings support the theoretical models of a maturing and fragmented industry with rising capacity (Porter, 1980, Bower, 1986, and Woods, 2009). Causes of excess capacity identified in prior studies such as new substitutes, improvements in technology, recession and the pursuit of more (Collins, 2009). This last cause can lead to over-investment, and create barriers to exit.

A number of themes emerged in relation to internal and external failings, in a time of industry change. Proactive approaches to rationalising were identified from the literature and examined with a view to their potential in this contextual situation. These were then explored with the respondents, possible solutions and recommendations for this struggling industry were then developed.

INTRODUCTION:

When excess capacity fails to proactively exit from an industry, the profitability of the entire industry can suffer as a result. Preventing this are exit barriers, which in relation to this research are mainly economic and managerial. However, industries do not always fail to proactively rationalise, examples of some more positive experiences can be seen in research by Bower (1986) and Wood (2009). In their research the rationalisation was driven by market leaders, the presence of such leaders is a reflection of the concentrated industry structure of the industries they examined. In contrast to their research, this study focuses on the fragmented Irish Printing industry, which by definition is a leaderless, confrontational, uncooperative and intensely competitive industry. With such a structure the product is typically a commodity and combined with the presence of excess capacity, competition tends to be based solely on price.

There is a gap in the literature relating to fragmented industries and capacity rationalisation that will be addressed in this research. This opportunity is extremely rare as research in the area of rationalisation typically clusters around economic decline, because it is here that the need for rationalisation intensifies, bringing with it better access to primary data. In this research, the mature fragmented Irish printing industry will be examined, where the need for rationalisation is clearly evident. The overall goal of this research is to understand why proactive rationalisation will not occur in this industry contrary to arguments in previous research on concentrated industries. The proactive rationalisation referred to is *acquisition* which is used interchangeably with the word *merger*, and also *takeover,* referring to an *aggressive acquisition.*

It is hoped that this research can be a catalyst through which practitioners and academics can understand and better deal with such an important divestment issue as capacity rationalisation.

CAPACITY RATIONALISATION AND EXIT BARRIERS:

Capacity investment and divestment decisions are among the most important a firm makes, however substantially less work has been carried out on the decision to disinvest (Wood, 2009). This is unfortunate as in some situations the important competitive moves pertain to disinvestment rather than investment, where capacity must be reduced for a company or industry to remain profitable (Ghemawat and Nalebuff, 1990). Capacity can be defined as the maximum level of value added activity that an operation, process, or facility is capable of over a period of time. Get the balance between capacity and demand right and the operation can satisfy its customers effectively. Get it wrong and it will fail to satisfy demand and the firm (and industry) will have excessive costs (Slack and Chambers, 2007).

Excess Capacity:

A situation of excess capacity is where actual production is less than what is achievable or optimal for a firm. It is not to be mistaken for 'slack' that can be defined as the excess capacity maintained by an organisation. This could be optimal for the firm as there needs to be some room for manoeuvre from an operations perspective. Excess capacity in this study is specifically looking at the non-optimal surplus presence of capacity. It implies wasteful use of funds and can result from a mismatch between demand and supply. One impact of excess capacity is on price. When supply exceeds demand price has a tendency to fall. In this situation, a firm will operate a productive facility at a lower rate than that at which average cost achieves its minimum (Kamien and Schwartz, 1972). Depending on the level of excess capacity, *"the profitability of the entire industry can be persistently low as a result"* (Porter, 1980, p21).

Some common causes of excess capacity will now be discussed. The main reasons for excess capacity developing in an industry are as follows**:**

- *Substitutes:* A new product or service supplants another.
- *Technology:* Improvements in machinery and technology can add to productivity and therefore grow capacity.
- *Recession:* A recession is believed to be caused by a widespread drop in spending. They are defined as two or more consecutive quarters of negative GDP growth (Knoop, 2010). The relationship between recession/ downturns and excess capacity and rationalisation issues can be very clearly seen in the high number of academic and practitioner studies clustered around economic downturns.
- *The undisciplined pursuit of more:* This concept is introduced in research carried out by Collins (2009). His study anticipated that most companies fall from greatness because they become complacent, fail to stimulate innovation, initiate bold action, fail to ignite change or just become lazy and watch the world pass them by. However, what he discovered was that

there was little evidence of any of these found when the companies researched fell. Overreaching much better explained how the once invincible can self-destruct. From an excess capacity perspective, the undisciplined pursuit of more is very relevant when this involves over-investment in capacity.

- *Overbuilding of the industry:* This involves building too much capacity into the industry. It can occur in a number of situations: when high exit barriers prevents the excess leaving the market smoothly, when suppliers promote overbuilding with easy finance, subsidies etc., large numbers of firms are all jockeying for position, lack of market leadership enforcing reason, and finally production oriented management, where the focus is more on 'having the shiniest new plant' is viewed as a gateway to increased market share (Porter, 1980).

Capacity Rationalisation:

Capacity rationalisation is performed with the objective of positively impacting on a company, process or industry. It aims to make the company more efficient by dispensing with superfluous personnel or equipment (Oxford, 2010). Bower (1986) argues that when a situation of excess capacity exists, prices should fall and manufacturers then shed capacity in order to reduce losses. That would indeed be a rational line of thought, and reflect neoclassical (rational) economic models of firm exit. These assume capacity closure decisions are implemented by reference to a simple threshold trigger. Their framework is premised on the assumption that capacity is closed as soon as it ceases to be profitable (Wood, 2009).

Keeping with the notion that capacity must be reduced to remain profitable and in line with neoclassical economics, in theory the least efficient producers exit first, thus guaranteeing the market lowest cost supply. However, in practice this does not happen, due to the reluctance of individual firms to voluntarily implement the market solution of cutting productive capacity as plants become uneconomic, this implies that the industry will experience prolonged pain before embarking on the necessary path of radical rationalisation (Harrigan, 1982, Wood, 2009, Jensen, 1993, Porter, 1980, Bower, 1986).

Proactive capacity rationalisation: Capacity in an industry may rationalise through a number of methods:

- Firms can choose to exit
- Firms can be incentivised to exit, this would generally be through political intervention
- Through merger or acquisition
- Firms collectively cut capacity, by setting up a strategic alliance with this aim
- Diversification within the industry, though this strategy would need to be pursued proactively and is generally considered at too late a stage.
- Do nothing and hope that others will exit, taking the greatest and least rational risk of all (Drucker, 1994), this is only rational if the firm has deep pockets.

Structural Analysis:

The concept of industry structure is central to the area of capacity rationalisation as structure determines profitability (Porter, 1980) and also how rapidly competitors will retire excess supply (Porter, 1985). Likewise, Whinston (1988) emphasises that it is hard to predict how capacity will rationalise with specific reference to understanding industry structure. Three aspects of industries will be considered here in turn, under the industry structure umbrella:

- Number of firms:
- Competitive rivalry.
- Exit barriers.

Number of Firms:

A basic contention of industrial organisation theory is that firm numbers and the distribution of market shares among firms are important determinants of industry prices and profit. This proposition is supported by numerous empirical studies showing a positive relationship between concentration and prices, concentration and profitability, and between concentration and price-cost margins (Lamm, 1981). In line with this Bower (1986) argued that concentration (a reduction in the number of competitors) is a key pre-requisite to solving the problems of an industry facing excess capacity. Wood (2009) generalises Bowers argument by stating that concentration through acquisition is a <u>necessary</u> pre-requisite for fundamental restructuring to the case of a relatively small competitive industry. This suggests that without rationalisation through acquisition, an industry cannot restructure.

At its most basic level, the structure of an industry refers primarily to the number of sellers, or number of firms in that industry. At one extreme of market structure is a monopoly and at the other is the perfectly competitive market which has a very large number of small firms (Grimm et al., 2006).

To better highlight the polar opposites in terms of firm size, an example of a concentrated industry structure in the form of a cartel would be Organisation of the Petroleum Exporting Countries (OPEC). According to Scherer (1996), between 1982 and 87 Nigeria was under extreme pressure from the World Bank to sort out its economy, mainly its large deficit. At the time Nigeria's output was 1.37 million barrels of oil per day. If it wanted, Nigeria could have output an additional 600k barrels a day and added $5 Billion to its exports. They did not, instead they kept with their quota (set by OPEC), and when asked why they did not take advantage and help themselves a Nigerian economist explained; *"if we heavily discount our oil sales, the other OPEC nations cannot help but match our discounts, and then we will all end up selling our oil for less*" (Scherer, 1996, pg90). This attitude epitomises the thinking of a loyal cartel member, and highlights how in consolidated industries, rivals may be advantageous (Wright et al., 2004), which in the above example is a defence of profit level through controlling output. The opposite is true, or at least more difficult in the other end of firm concentration i.e. a fragmented industry, where in contrast to the previous example the large number of competitors generally means that buyers have greater power to play one competitor against the other (Porter, 1980).

Competitive Rivalry:

An understanding of competitive rivalry is important because in terms of rationalisation it has a direct impact on industry profitability, which in turn impacts on exit barriers and rationalisation, hence the reason why it is discussed in this research. Competitive rivalry tends to be high under the following conditions, according to Porter (1980):

1. There is little differentiation between the products sold between customers
2. Competitors are approximately the same size as each other
3. If the competitors all have similar strategies

4. It is costly to leave the industry hence they fight to just stay in (exit barriers)
5. Low market growth rates (growth of a particular company is possible only at the expense of a competitor)
6. High "strategic stakes" are tied up in capital equipment, research or marketing
7. High fixed or storage costs, which encourages fast turnover of inventory
8. When capacity can only be increased by large amounts. In this case companies will fight to protect their market share, or compete aggressively to increase it substantially

Competitive rivalry mainly relates to impact on competition and profit, but one of the above elements is just as important as competitive rivalry itself: Exit barriers are probably the most important area of structure to understand in terms of failure for capacity to rationalise. As already stated in the beginning of this section competitive rivalry heightens these through erosion of profitability.

Exit barriers:

Porter's (1976) well titled *'please note the location of the nearest exit'* is a seminal academic study of exit barriers. Interest in this area also peaks around downturns. Indeed, the first line in his work on exit barriers begins '*With the recent downturn'* (Porter, 1976, pg21). His central point is that there are a series of barriers to exit working against divestment decisions, in such a way that companies are inclined to hang on to unprofitable businesses. Indeed the rate of convergence to equilibrium is faster when there are fewer barriers to entry and exit (Inaba, 1978). Exit barriers arise from the industry environment, strategy and decision making process of a company and can be classified as follows:

1) Structural (or economic) exit barriers

2) Corporate strategy exit barriers

3) Managerial exit barriers

While (1) and (2) are characteristics of firms which make it in the company's best interest to stay even though they are earning a rate that is below the cost of capital, (3) deters management from making decisions to exit even though they are justified on economic grounds (Herck, 1984).

1) Structural (or economic) exit barriers:

In a downturn economic (structural) barriers are the principle problem. They deter firms' timely exit and would represent factors that influence a firm to operate its assets even if it earns a subnormal rate of return on them (Harrigan, 1980a, Harrigan, 1981, Porter, 1976). These can be the costs associated with eliminating a plant or the lack of a resale market for the plant and its assets (Harrigan, 1980a). This lack of resale market is quite likely to deteriorate badly just when a company wants to sell them (Porter, 1976)**.** Exits should be executed before the asset resale market sours, as although it may seem desirable for the firm to wait for the situation to become less uncertain, waiting could be detrimental (Harrigan, 1980b). It is in the industrys' interest to reign in any increases in capacity promptly as soon as any fall in demand is predicted.

An important distinction to make at this juncture is between companies that have sunk capital costs and those who do not. Those without them have better exit options than those who would have high capital investments (Rosenbaum and Lamort, 1992). Therefore services companies for example, with no machinery, have more options than manufacturing companies. Capacity rationalisation is more of an issue in industries with high sunk costs because they act as barriers to exit. This research will focus on those that would have high sunk capital such as manufacturing firms.

2) Corporate strategy exit barriers:

Just like structural barriers to exit, certain kinds of overall corporate strategy choices can place companies in situations where it pays for them to stay in business even when the business is earning a chronically unsatisfactory rate of return on investment (Porter, 1976).

3) Managerial exit barriers:

These arise from the management characteristics and decision making processes. Decisions are made that are not in the best interests of the company. An example of a managerial barrier would be where a manager was unable to let go of a businesses because of personal identification and emotional attachment to it, especially if they were involved in the original investment decision (Sewing, 2010). They develop pride and commitment in their businesses. Commitment and intense involvement with the business are important characteristics of a successful leader and effective manager. It is ironic that managers and leaders like this who are proud and committed avoid the rational and economically justified exit decision that is easier for a less emotionally attached one (Porter, 1976).

Fragmented Industry Structure:

Just to be clear, there is no specific definition of a fragmented industry, although according to Porter (1980) the essential notion that makes these industries a unique environment to compete in is the absence of market leaders. One such fragmented industry acknowledged by Porter was that of the commercial lithographic printing industry.

The main reason for the absence of leaders is that in such an industry a company trying to gain a dominant share is usually doomed to failure (Porter, 1980). The reason why it is doomed is because of the competitive confrontational nature of such an industry. A very informative academic article by Wright et al (2004) identified this confrontational manner of the fragmented industry across multiple disciplines such as Game Theory, Institutional Theory and Population Ecology, from which the following four key points have been extrapolated;

1) In fragmented industries rivals may ordinarily be a threat, whereas in consolidated industries they may be beneficial. That is because in fragmented industries competitors tend to be confrontational but in many consolidated industries enterprises can be non-

confrontational and mutually advantageous in their rivalry. This is in line with the OPEC example given earlier.
2) They contend that toe-to-toe competition, characteristic of a fragmented industry, not only may be harmful for each enterprise but also such rivalry may undermine the health of the industry.
3) Citing Cournot (1971) they highlight that in Cournot's model, numerous firms in the industry, characteristic of fragmented industries, are related to a more intense competition and reduced profitability. That is because as the number of rivals increases in an industry, the equilibrium price declines until it approaches the product's marginal cost.
4) In fragmented industries, announcements of bankruptcy will be associated with positive abnormal returns for non-bankrupt competitors because the existence of rivals is disadvantageous. To the extent that distress in one company could be received positively in others because of the above.

All of the above are in line with Porter's (1980) thinking. But there is an element of bitterness and resentment in the above points that is not as evident in his work, in particular in point (4) where distress in one is welcomed in the other. The above points from Wright et al (2004) are central in terms of fragmented industries and highlights their confrontational manner and its impact on profitability, only serves to raise economic barriers and prevent proactive as opposed to market driven rationalisation.

The Irish Printing Industry:

An overview of the Irish Printing industry is now presented using both industry journals and reports, with emphasis on the critical issues of: training, overcapacity and the commodity nature of product. The majority of companies within this sector are companies that can produce among others: business cards, annual reports, programmes, flyers or letterheads. A medium to large sized company produces any of the aforementioned, with jobs worth anywhere between €50 and €300,000. The companies are manufacturing based, with a high level of fixed capital which is industry specific and as such is harder to sell in a less profitable environment.

As per the last industry report (McKeown et al., 2005) the Irish printing industry was made up of around 371 companies, with circa 70% of companies having less than 20 employees. This is one of the reasons why the industry is deemed to be fragmented, the majority of players are small regional companies (McKeown et al., 2005), in addition, there are no market leaders in the industry. In fragmented industries there tends to be a high presence of owner manager companies. This industry is no exception, there are a high number of family run businesses.

Training - With the presence owner managers there is the possibility *"that they are less interested in training and development"* (McKeown et al., 2005, pg149). As far back as 1994, with specific relation to marketing, strategic and operations management it was emphasised that skills and capabilities of many managers in the printing industry were deficient (McIver Associates, 1994). This was mainly due to the owners production background that creates an emphasis on technical rather than management competencies (McKeown et al., 2005).

Causes of Overcapacity:

Over investment: It is well recognised that many of the firms in this sector have made huge investments in technology and machinery for production purposes, of which the strategic implications of some investment decisions had not been considered (McKeown et al., 2005). A worrying warning in 2005 relating to investments and their long-term implications, was that the increase in capital investment had resulted in increased borrowings. In addition it was discovered that the average machine utilisation was only 74% in 2005 (McKeown et al., 2005).

Overcapacity – Computer manuals: The computer manual sector came about in the 1980's when Ireland was chosen to service the European software market by a number of large U.S. software companies. The problem arose when the chunky computer manuals that used to go with every software package were replaced by the CD-Rom. This pushed a lot of capacity previously used to print the manuals back into the commercial market. Although this issue is not recent, the industry's lack of response (despite warnings) contributed to the current situation.

Overcapacity – Substitutes: Following the development of CD-ROM, the digitisation of information and the widespread diffusion of the internet, broadband in particular, have all increased the alternative options to printed material available to consumers and businesses. More recent threats can be seen in the form of e-book readers and hand held devices which are now very popular substitutes for books and documents. Amazon recently announced that their e-book sales eclipsed paperbacks in 2011 (www.guardian.co.uk, 2011).

Overcapacity - Government contracts and Foreign competition: Recently a major concern of industry has been the outsourcing of government printed material to other EU Countries. The concern was that the Irish government were placing more print contracts up for tender outside the state than other EU countries. At the same time competition from abroad has increased, due to the higher costs of doing business in Ireland.

Overcapacity - Impact of technology: As with all manufacturing industries, improvements in technology and machinery have added capacity (McKeown et al., 2005).

Overcapacity - Economic downturn: There were numerous warnings that a recession in any of a number of sectors would have serious implications for the Irish printing industry (McKeown et al., 2005). In recession, typically the first budget cut is marketing or advertising. That is why demand for print and paper products is generally linked closely to GDP (McIver Associates, 1994). As Ireland is currently facing its worst ever recession (Collins and O'Halloran, 2010), there are going to be consequences.

Commodity nature of product: Print is a commodity, it puts ink on paper, and the lack of differentiation combined with overcapacity leaves the industry in question competing solely on price (McKeown et al., 2005). Failure to differentiate is in line with previous observed implications of an owner manager production based management lacking a more strategic approach.

Poor Succession Planning: Because of the owner manager nature of the sector this issue is critical to the success of the firm, however, there is little evidence of any succession planning in this industry (McKeown et al., 2005).

Print Management companies: These have been called the catalysts of the downward price spiral in the industry (Printer, 2009). They come between the customer and the printer, and offer to make savings to the client. Although not the sole catalyst, they do reduce the margin companies would have normally absorbed themselves, as such they are contributing to the *downward price spiral* referred to above. This is relevant in terms of exit barriers, as any erosion in profitability only further raises economic exit barriers.

All of the above factors have contributed to the industry's overcapacity and created the current intensely high level of rivalry with some companies reputed to be quoting prices that are below their costs.

CASE STUDY:

The topic of capacity rationalisation is extremely relevant in the present climate. Further investigation recognised that the majority of previous research in this area was clustered around economic downturns, for example Bower (1986), which was based around a recession caused by a man-made oil shortage. Indeed research by Wood (2009) utilised a data set taken from after the collapse of the clay brick industry in the UK during the 1980's recession. The current economic downturn gives us a timely opportunity to re-examine this issue. Coupled with the researchers' unique level of access to industry experts, a detailed investigation of the Irish printing industry was possible. A case study methodology was utilised, utilising in-depth interviews with industry experts in order to understand the current industry, and in doing so answer the research question: ***Why would a mature fragmented industry not rationalise through acquisitions in line with arguments by Bower (1986) and Wood (2009)?***
Supplementary objectives identified are as follows:

1. How do industry experts envisage capacity rationalising?
2. Identify what has created current overcapacity in the industry.
3. What do they believe are the impediments to capacity rationalisation in the industry?
4. What are the possible solutions for capacity rationalisation in the industry?

Six in-depth interviews were conducted, with ex- or current managing directors on the basis that these are the best source of understanding and insight into industry. Note that names have been changed to protect anonymity. The following themes were explored: reasons for excess capacity, impediments to rationalisation, and predictions and solutions for rationalisation. The data was then analysed and triangulated using a template analysis approach, created and coined by King (2004), which is a procedure to analyse qualitative data (Saunders et al., 2009). It refers to a particular way of thematically analysing qualitative data, usually interview transcripts. A coding 'template' is developed, which summarises themes identified by the researcher(s) as important in a data set and organises them in a meaningful and useful manner. Hierarchical coding is emphasised, that is to say, broad themes encompass successively narrower, more specific ones (Huddersfield, 2010).

RESEARCH FINDINGS:

Each sub-objective will first be discussed, before moving to analyse the overall research objective.

Objective 1: How do industry experts envisage capacity rationalising?

The first sub-objective is that the industry will not proactively rationalise through mergers or acquisitions. Enthusiastic attitudes towards what could happen were observed, however there were no industry experts in support of the concept that capacity would proactively exit through mergers or acquisitions.

- *"I think the time for M&A's, that opportunity is gone"* (Karl)
- *"I don't see acquisitions playing a major role"* (Damien*)*

As per above the assumption was unanimously supported. Following on from this in response to how the experts actually see capacity rationalising.

- *"I think what is more likely to happen than that deal (M&A's) --- is many many companies going to the wall and finally the market just making it right*" (John).
- *"So I think that more likely the market will take its toll rather than the industry doing what it can"* (John)
- *"But I would say that the reality is that the market forces will cause the rationalisation through closure"* (Neil).

The experts ultimately envisage that market forces will force closures. *It can be concluded that t*he Irish printing industry will not rationalise through any proactive means. Capacity will be removed through natural closures.

Objective 2: Identify what has created current overcapacity in the industry

As confirmed by industry experts believe that there is still overcapacity in the Irish printing industry. This confirmation is no great revelation; it is in line with predicted traits of industries in the mature stage of their life cycle (Porter, 1980). Based on data from the industry, it is also not surprising considering there was already overcapacity in the Irish printing industry in 2005 (McKeown et al., 2005). Another indicator pointing to the possibility of overcapacity was the observation of a high number of articles on investment by certain companies since 2005, combined with the drop in demand as a result of the world's worst recession since the 1930's (Foley, 2010). A number of issues were identified as adding to the current level of overcapacity, some of which have long been issues in the industry and were identified in the literature:

1. Overinvestment
2. Work leaving the country
3. Substitutes
4. Improvements in technology
5. Recession
6. Lack of proactive rationalisation to take capacity out

1) Overinvestment:

According to the experts, overinvestment played the biggest role in the creation of the current situation of excess capacity, which as per secondary data most notably on overbuilding is a constant danger in a commodity type industry. Based on an understanding gained from industry experts the overinvestment in this situation came about because of three elements:

A. Reasons for investing
B. Internal failings
C. External failings

A) Reasons for investing:

There are multiple grounds for investing in new machinery. Here it has been fragmented into three elements to better articulate why firms in the Irish printing industry did so over the last several years. They are ‘Defensive’, ‘Ego/ Pride’ and the ‘undisciplined pursuit of more’.

Defensive: Defensive grounds include the firm belief that up to date equipment / machinery was critical for survival:

“In some cases there was a fundamental belief that to survive if you did not have the equipment you wouldn't survive” (Karl).

The investments were *“actually defensive rather than trying to take over the world, they were trying to stop shrinkage”* (John).

It is an extremely competitive industry where sometimes investments need to be made in the face of intense competition. This is especially true when competitors whether for the wrong or right reasons, have upgraded.

“People can be forgiven, I think, for thinking that it is a good time to borrow, interest rates are low, get a good piece of kit, make life easier and more efficient and so forth. With no one taking any sectoral kind of view of what’s happening” (Damien).

With no sectoral view, the problem then arose when *“a whole load of ten colour B1's and B2's came into this country”* (John).

This lack of a sectoral view connects with previous arguments, which are directly linked into lack of training, particularly strategic. It is also due to the divided, confrontational and fragmented nature of the industry, which makes it less likely as a sector to make strategic decisions.

Ego/ Pride: Although there is the argument that in some cases purchases were defensive, it is also true to say that others were not. One industry expert sarcastically commented, *“Ego and vanity in the printing industry?”* (Neil). In line with secondary literature there is a particular risk where production has been the traditional concern of management (Porter, 1980).

Undisciplined pursuit of more: In a similar vein, the ‘undisciplined pursuit of more’ as described earlier is also relevant. Some people did go too far with investment, one interviewee commenting on the amount of machinery one company had, where he

“couldn’t walk more than five feet without hitting a machine. I have never seen more equipment, I have never even seen more equipment in a print exhibition” (John).

B) Internal Failings:

The reasons have been identified, but what internal failings allowed the investment to go through? One in particular highlighted in the last two industry reports is the industry's attitude toward training. In fact

"as an industry we have failed to invest in training because management have seen training as a cost to the company rather than an investment for the future" (Karl)

This lack of training in particular contributes to overinvestment through enabling poor decision-making and lack of strategic planning on a company level with sectoral implications.

This issue then contributed to further problems such as lacking strategic skills to plan ahead, poor decision-making processes, and a focus on volume, not profits:

"a good mechanic may not run a good garage, he may be a good mechanic, and I think a lot of us are just good printers or good sales people, we are not good business people" (Peter)

Owner manager: Around half of companies in the sector are managed by their owners. Karl reiterates this point with specific reference to lack of understanding of

"capital investment return on capital employed and a business plan to justify the investments that have been made in our sector".

Although those in charge *"have a lot of common sense and a lot of gut feeling, which in many cases has served them very well, I think that where that starts to cause a major problem is when things get tougher, and they don't have the capability to really analyse what is going on"* (Neil).

These internal failings allowed overinvestment to go ahead. As highlighted these internal failings are an area that the industry can do something about but unfortunately previous attempts through various industry body driven reports have not resulted in proactive action (Karl).

C) External failings:

Easy credit was cited as the main cause of the current Irish economic downturn (Countrywatch, 2010). Confirming this, 'easy credit' was cited by all experts as the prime enabler of the current excess capacity. Banks and machine manufacturers,

"were throwing money at people so if you wanted to buy a machine there was no problem to get the machine on a moratorium" (Neil), in fact
"the people most happy over the last ten years were Komori and Heidelberg, who really sold an awful amount of equipment that this country did not need, and still have" (John)

The end result was *"too many ten colours in Ireland"* (Claire).
A ten colour being one of the largest production machines in the industry and Komori and Heidelberg being the machines manufacturers.

Some respondents emphasised the fact that credit was not always 'easy', there was a time when it was a lot harder to source.

"*They put us through rings of fire and in the end didn't sanction what we were looking for. So we got it from another bank, but you know if those same kind of attitudes had prevailed into the ten/ fifteen years later, there would not have been as much madness all around"* (Damien)

This is not an isolated incident in that the lending practices and the Irish banks do not have to be debated here. It is an accepted fact that the due diligence of some lending practices were questionable (Countrywatch, 2010). This also corroborates with the reasons for overbuilding highlighted earlier.

2) Work leaving the country:

Foreign Competition is identified by the experts as a factor, there is *"a significant impact of foreign supply relative to Irish demand, which has not been matched by Irish companies in terms of being successful in terms of exporting"* (Neil) This is as highlighted earlier and is mainly because of the higher costs of doing business in Ireland (McKeown et al., 2005). Government contracts were also mentioned: Statistically there are a very significant amount of government printing contracts being exported in comparison to other countries. A reduction in this figure would go some way to alleviating pressure on the industry.

3) Substitutes:

Some elements of the sector are being hit by this issue more than others, but there is no question especially in relation to electronic media,

"the printed image and the printed message is being sent electronically" (Peter)

Bills, invoices, purchase orders, books, marketing items, annual reports and anything that is printed in theory can be sent electronically. One industry expert (Peter) believes that in six years time there will be no schoolbooks and noted that one school where he is from stopped buying schoolbooks two years ago. He also believes that the upcoming generation will have less time for print media.

4) Improvements in technology:

Claire pointed out that *"technology has increased capacity",* this is as per the impact of this issue in 2005. This is also reflected in the drop in volume of printing due to the direct marketing approaches being taken. Customers *"don't have to print a million leaflets to put into a million homes in Dublin. They can go to Tesco and buy the data from the Tesco club card. They can target women between 35-40 and come to someone like us and do 10k leaflets digitally and put them into the right homes"* (Claire)

5) Drop in demand (recession)

As highlighted in McIver (1994) print demand is linked closely to GDP and an economic downturn has a negative impact on demand for print. Some believe that:

"*what it has done is accelerated the demise of companies who have a flawed business model anyway..that the recession is a catalyst for a necessary change within the industry"* (Karl)

There is no doubt that in the short term the drop in demand and other elements as a result of the economic downturn are impacting on rationalisation through adding to overcapacity.

6) No proactive exits

"*The lack of ability for people to do mergers that will take capacity out"* (Claire) is at the core of this issue, no proactive exit means that overcapacity will in the end be eliminated by product market forces (Jensen, 1993).

Overall, then the experts support the view from literature that current excess capacity was mainly created through overinvestment in machinery combined with a drop in demand for printed material as a result of the world's worst recession since the 1930's (Foley, 2010).

The overinvestment was mainly due to lack of due diligence by financial institutions (as cited by experts) combined with traits of a fragmented industry structure. These are: poor strategic forethought and decision-making, which are a result of a production orientated industry with a relative disinterest in training.

On previous occasions the industry has been warned of possible excess capacity issues, including the current debacle and did not proactively or strategically act. One expert believed that as an industry it will continue doing things the same way and ignore objective warnings.

Objective 3: What do they believe are the impediments to capacity rationalisation in the industry?

This leads into the next section because it is the following impediments/ exit barriers that keeps excess capacity from proactively rationalising. This objective addresses the research question, why will the industry not rationalise through mergers or acquisitions? The impediments and exit barriers that were identified are discussed under three headings: impediments to buyers, industry and sellers.

Impediments to buyers:

There are various issues here that culminate with one final point that encapsulates the impediments from a buyer's perspective in the current climate:

Assets go home at night in their car

If a company was to acquire or takeover, with the latter referring to an aggressive acquisition, the main issue is that,

"your biggest asset in any company, like ours, goes home in their car in the evening, and if anyone aggressively took over company (Y). Everyone would make their own decision where they wanted to go" (Claire)

As such any acquisition would run the risk that even after acquiring or taking over a particular company that those in control of the work would not just take it with them and leave. The presence of such an intangible asset adds risk to any such manoeuvre.

Expectations too high

There were numerous references to proactive pursuits of acquisitions being met by sellers looking for "*absolutely ridiculous multiples of profit"* (John).

"A guy selling 450k worth of turnover is probably looking to get 150k for that. He wants 450k and that is the problem, completely unrealistic approach to the value of the business" (Peter)

Why would anyone pay over the odds for a company in such an economic climate and expose themselves with the risk? Reference to this was seen in the last chapter were many 'l*ifestyle business owners often over-estimate the value of their businesses'* (McKeown et al., 2005, pg103).

Lack of credit availability (external issue)

This needs no explanation, there is a serious lack of credit availability with the economic downturn. The resulting impact is that although there are ample opportunities, both in terms of machinery and possible acquisitions, without access to additional resources it is hard to take advantage.

Lack of resources

As a direct result of a number of factors, such as reduction of profitability, credit availability, uncertainty and others *"people don't have the resources and or the surplus funds"* (Karl) to carry out acquisitions.

Waiting for the Apple to drop (liquidations)

This is the most important of all the actors from a buyer's perspective, which results in abstention from proactive rationalisation. This theme was highlighted in the last fifteen minutes of the last interview by a very observant industry expert who proposed:

"I don't see acquisitions playing a major role. Its like, if you want the apple are you going to overreach trying to get it down from the tree? When you know it might fall in a few hours. And I think there are apples waiting to fall" (Damien).

This insight is crucial and it articulates what people in a position to acquire others are thinking. Why would they deal with the ego, high expectations and more when they risk the sales book leaving anyway especially when they can try to catch elements of the company when it goes into liquidation?

Impediments to Industry

There are only two components here, and both are as a result of the fragmented industry structure:

No Industry Leader:

This is a very important point in relation to why the industry will not rationalise through acquisitions. This is that

"what is missing from this is a really big strong player who could mop up the kind of thing that you are talking about … who can take out the smaller capacity and take over maybe struggling companies, to amalgamate them into one big, stronger company, I can't think of one company that is playing that role here in the print industry, so I think we are probably leaderless to an extent" (John)

This lack of leadership is down to structure, a fragmented industry being a unique environment because of the absence of market leaders (Porter, 1980). This leaves the industry leaderless and unable to cooperate for a common goal, which in this situation would be capacity rationalisation. As such there is no proactive push from the industry to help itself.

Industry Body:

Some experts labelled the industry bodies as

"toothless in the sense that they are not monitoring. They are only active now because there is carnage" (Peter)

This body can only advise, it does not have any powers to do more. The prime reason for this is because of the competition authority, *"the Printing Federation would love to get more active in terms of trying to bring some facilitators in to the sector to see could you get people together to start thinking and talking about what they are doing. But you can't do that"* (Neil)

Impediments to Seller

Like demand for print, demand for printing companies and their assets has also been affected. It also mirrors items from 'internal failings and reasons' around the excess capacity section. This is because the failings in decision-making and planning have repercussions in this section. In no particular order the following are the elements that make up seller impediments:

Focus not on profit

In line with literature around fragmented industries is the presence of people who are not profit driven (Porter, 1980). This is highlighted by one industry expert:

"there is no one at the bottom of the gate saying where is my return?" (John)

As such companies can remain in business even when economically they should leave. This is also seen where people are keeping uneconomic capacity

"by occupying a machine that should be mothballed by selling it at prices that are below cost" (Karl)
If they focused more on profit there could be a removal of the unprofitable capacity.

Owner manager attachment

This is probably the main barrier to exit of capacity in relation to sellers. Emotive
"connections to keeping their fathers companies alive. First generation, emotive feelings to keep what they built alive" (Claire)

This is also probably the most understandable impediment to sellers and ties with owner manager issues from the literature.

"It is an emotional issue, you start something, you own it, you feel responsible for it" (Peter)

All of these issues are in line with the managerial exit barrier literature and creates a barrier to exit even though the rational economic decision is to do so. This is a huge impediment in terms of rationalisation and is also linked to the fact that the industry is all they know.

Residual value too low

This is a straight forward economic/ structural exit barrier as per the literature on exit barriers. With the drop in prices offered for companies and machinery companies are economically better off remaining.

“The simplest way for rationalisation is for businesses to close, but if someone is going to close their business they have to have a way of getting out of it with some sort of financial stability, basically they cant afford to lose their shirt in the process” (Neil)

Ego/ pride

Ego/ pride can stop capacity rationalising. People should have their *“egos extracted at birth”* (Peter). Speaking in relation to acquisition attempts to acquire other companies, Claire comments that on one possible merger/ acquisition situation:

“ego took over to the point that the deal couldn’t be done” (Claire)

This also ties in with literature around managerial exit barriers.

To conclude discussion of the impediments to capacity rationalisation in the industry, buyer’s have neither the appetite nor resources to pursue acquisitions. This is especially true in relation to the high expectations and egos of sellers to contend with. Combined with the fact that there will, without doubt, be some closures; the prevailing attitude seems to be that rather than overreaching to acquire the company, buyer’s will wait to see what they can acquire if and when companies go into liquidation.

From a seller’s perspective the exit barriers to rationalisation both from economic and managerial perspectives are very high. The economic barriers are due to the low resale value of assets and companies. Companies are actually better off economically remaining in business. The managerial barriers are also very prevalent, which are common in fragmented industries such as emotional attachment to the businesses.

From an industry perspective there are no market leaders or industry bodies with the power to influence the industry in terms of pricing or rationalisation. This is because of the fragmented confrontational nature of the industry structure.

Objective 4: What are the possible solutions for capacity rationalisation in the industry?

In the beginning of this process there were high expectations in terms of finding alternative solutions to excess capacity issues. There are a few options but unless the government come on board as they did for the fishing industry there is not much chance of any alternative solutions succeeding. Without outside intervention getting past anti-competition issues which the current industry bodies are restricted by, the confrontational nature of the fragmented mature industry will restrict any other options.

The following potential solutions were suggested:

Natural closures, merger and acquisitions, takeovers, liquidation, or 'wait for the apple to drop', scrappage scheme, diversification, collectively cut capacity, and some other propositions. The one reference to takeovers (Claire) was referring to takeover’s working when a company is going through an examinership process, however, these are so few and far between in terms of companies entering into examinership it is not a real option.

Reference to some sort of scrappage scheme similar to that explained in chapter one was the most widely iterated alternative option by the experts. This is mainly because

"when you consider the government are going to pay out three million this year alone to the unemployed in the printing sector" (Karl)

"government could facilitate a process and could say you know like they done in the pig industry and the fish industry … where they have consciously bought out capacity … and see what is left or have a very planned targeted campaign to take the capacity out and what is left is a viable industry" (Neil)

The overall impediments to rationalisation have been clearly shown above, but why are they even there? What is the root cause that will answer the question: why will the industry not rationalise through mergers or acquisitions?

There are only really two viable options and in accordance with the experts views they are highly unlikely to happen. The first one is a government driven scrappage scheme. This has to be government driven, as the industry body is powerless due to anti competition laws. In essence the government would buy second-hand machinery off the industry for use in government printing departments, of which there are many, Including one in Leinster house (the seat of the Irish Government).

The other option is through strategic partnerships with companies combining together to pursue larger contracts or utilising common resources. The problem with this is the confrontational nature of the industry. This is an option but will likely never happen on a scale large enough to proactively avoid the market-driven closures that will rationalise the industry.

CONCLUSIONS: WHY WOULD A MATURE FRAGMENTED INDUSTRY NOT RATIONALISE THROUGH ACQUISITIONS IN LINE WITH ARGUMENTS BY BOWER (1986) AND WOOD (2009)?

The mature and fragmented Irish printing industry would not rationalise in line with arguments from above authors because simply put, it is a fragmented mature industry. The industries looked at in the previous research (Bower, 1986, Wood, 2009) were concentrated and through the actions of market leaders within them, more specifically proactive acquisitions, they were able to rationalise capacity in the industry. Unfortunately traits associated with a fragmented industry structure such as their confrontational, uncooperative and leaderless nature means that they do not rationalise in the same way. They will not get past the exit barriers because they will not work together and there is no leader to proactively drive any initiatives. Bar outside intervention, the only way capacity will rationalise in such an industry is through firm closure, this resembles a slow bicycle type race with others hoping their competitors will go out of business before they do and so allow them to survive. United the concentrated industries stand and divided the fragmented industries fall.

With reference to the maturity of the industry, a lot of fragmented industries are in the mature stage of their life cycle where there is a more competitive landscape with powerful buyers, a more commodity type product and some overcapacity. This only adds to the intensity of the fragmented traits keeping them from proactively dealing with the capacity issue.

RECOMMENDATIONS:

1) The Irish printing industry has a fragmented industry structure of which there are two main weaknesses in relation to rationalisation. These are its confrontational nature and fact that it is leaderless. If those within it can, from their own, and the industry's perspective, come together and support an external industry body, proactively listen and adhere to their recommendations it would go along way to strengthen the industry from a number of perspectives. These would include ability to rationalise now and possibly future prevention of the need to rationalise.

2) In specific relation to the Irish printing industry. Training by its very nature is there for the purpose of adding to a person's competencies. There tends in fragmented industries to be a more owner manager type set of competencies, without which, that initial, typically entrepreneurial skill set there would be no company. However, there is a real need to widen and update their skill base to include strategic tools that can be used for the benefit of themselves and possibly the industry's. This is because, although doing what has worked in the past is not a mistake in itself, 'if the only tool you have is a hammer, you will hit everything like it is a nail', and sometimes a hammer might not be fit for purpose. More importantly the training recommended does not have to be structured, it can be unstructured in nature. It is a change in attitude to learning and adopting new ways of thinking more than anything.

3) Owner manager type companies in the Irish printing industry need to change their attitude towards profit. Their lack of focus on profit is to the detriment of the industry as a whole. If they feel the product that they produce has value, then they should ensure they get a reasonable profit for producing such work. This would go some way to alleviate competitive rivalry.

4) In the mature fragmented Irish printing industry, the product is a commodity, in order for companies and the wider industry itself to avoid competition on price alone, they need to diversify and add value to their customers in other ways.
In specific relation to the Irish printing industry, the only current viable option for rationalisation other than closures is the involvement of government, which the industry needs so support the industry body in pursuing, as any other attempt to influence industry could be seen as anti-competitive.

REFERENCES:

BOWER, J. L. 1986. When markets quake : the management challenge of restructuring industry, Boston, Mass., Harvard Business School Press.

COLLINS, J. C. 2009. How the mighty fall : and why some companies never give in, New York, distributed by HarperCollins Publishers.
Author. 2010. Ministers and TDs rally to Cowen after apology. Irish Times, 17th September.

COUNTRYWATCH 2010. Economic Overview. Ireland Country Review, 52-57.

COURNOT, A. A. 1971. Research into the mathematical principles of the theory of wealth, New York, Augustus M. KeRlley.

DRUCKER, P. F. 1994. Managing for results : economic tasks and risk-taking decisions, Oxford, Butterworth Heinemann.

Author. 2010. Political games on Capitol Hill mean nothing has yet been learnt from this affair. The Independent, 28th April 2010, p.10.

GHEMAWAT, P. & NALEBUFF, B. 1990. THE DEVOLUTION OF DECLINING INDUSTRIES. Quarterly Journal of Economics, 105, 167-186.

GRIMM, C. M., LEE, H. & SMITH, K. G. 2006. Strategy as action : competitive dynamics and competitive advantage, Oxford, Oxford University Press.

HARRIGAN, K. R. 1980a. Strategies for declining businesses, Lexington, Lexington Books.

HARRIGAN, K. R. 1980b. Strategy Formulation in Declining Industries. The Academy of Management Review, 5, 599-604.

HARRIGAN, K. R. 1981. Deterrents to Divestiture. The Academy of Management Journal, 24, 306-323.

HARRIGAN, K. R. 1982. Exit Decisions in Mature Industries. Academy of Management Journal, 25, 707-732.

HERCK, G. V. 1984. Entry, Exit and Profitability. Managerial and Decision Economics, 5, 25-31.

HUDDERSFIELD, U. O. 2010. What is Template Analysis? [Online]. Available: http://www.hud.ac.uk/hhs/research/template_analysis/whatis.htm [Accessed 01/10/2010 2010].

INABA, F. S. 1978. On Stochastic Entry and Exit without Expectations. Review of Economic Studies, 45, 535.

JENSEN, M. C. 1993. The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems. The Journal of Finance, 48, 831-880.

KAMIEN, M. I. & SCHWARTZ, N. L. 1972. Uncertain Entry and Excess Capacity. American Economic Review, 62, 918-927.

KING, N. 2004. Using Templates in the thematic analysis of text. In C. Cassell and J. Synom (eds) Essential guide to qualitative methods in organizational research. London: SAGE.

KNOOP, T. A. 2010. Recessions and depressions : understanding business cycles, Santa Barbara, Calif., Praeger.

LAMM, R. M. 1981. PRICES AND CONCENTRATION IN THE FOOD RETAILING INDUSTRY. Journal of Industrial Economics, 30, 67-78.

MCIVER ASSOCIATES, C. 1994. Print & Paer Industry: Sectoral Study Report. Printing. Dublin: Fás.

MCKEOWN, R., MCGRATH, J., KENNEDY, B., MALONEY, J., BYRNE, S., DUNNE, S., ANDREWS, G. & FARRELL, F. 2005. A Developing Future: A Study of the Paper, Print & Packaging Industry. Printing. Dublin: The Print and Packaging Forum; Fás; Enterprise Ireland.

OXFORD. 2010. Oxford Dictionaries [Online]. Available: http://www.oxforddictionaries.com/definition/metaphysics?view=uk [Accessed 01/10/2010 2010].

PORTER, M. E. 1976. Please Note Location of Nearest Exit: Exit Barriers and Planning. California Management Review, 19, 21-33.

PORTER, M. E. 1980. Competitive strategy : techniques for analyzing industries and competitors, New York, Free Press.

PORTER, M. E. 1985. Competitive advantage : creating and sustaining superior performance, New York. London, Free Press ; Collier Macmillan.

PRINTER, I. 2009. Print brokers...Friend or foe? Irish Printer. July ed. Dublin: Jemma Publications.

ROSENBAUM, D. I. & LAMORT, F. 1992. Entry, barriers, exit, and sunk costs: an analysis. Applied Economics, 24, 297.

SAUNDERS, M., LEWIS, P. & THORNHILL, A. 2009. Research methods for business students, Harlow, FT Prentice Hall.

SCHERER, F. M. 1996. Industry structure, strategy, and public policy, New York, HarperCollins College Publishers.

SEWING, J.-H. 2010. Corporate divestiture management organizational techniques for proactive divestiture decision-making [Online]. Wiesbaden: Gabler Verlag. Available: http://dx.doi.org/10.1007/978-3-8349-8661-0 MIT Access Only [Accessed].

SLACK, N. & CHAMBERS, S. 2007. Operations management, New York, Prentice Hall/Financial Times.

WHINSTON, M. D. 1988. Exit with multiplant firms. RAND Journal of Economics (RAND Journal of Economics), 19, 568-588.

WOOD, A. 2009. Capacity rationalization and exit strategies. Strategic Management Journal, 30, 25-44.

WRIGHT, P., FERRIS, S., VAUGHAN, M. J. & JACKSON, W. T. 2004. Are competitors advantageous or disadvantageous in consolidated versus fragmented industries? Academy of strategic management journal, 3.