Using Sequential Mixed Methods in Enterprise Policy Evaluation: A Pragmatic Design Choice?

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Abstract: How might policy instruments contribute to indigenous firm growth and how can the effects of these instruments be evaluated at both firm and policy level? This paper illustrates how a mixed methods research design and data analysis strategy can pragmatically address the research questions outlined above. The advantages and challenges of employing quantitative research methods (what happened?) followed by confirmatory qualitative research methods (how and why did it happen?) in a multiphase sequential explanatory design is explored. The data analysis strategy is firstly to analyse the data generated from a 'before and after' quasi-experiment (with statistical controls), then data from the confirmatory qualitative techniques (in–depth descriptive case studies) and cross-case analysis are added. The proposed research design and analysis approach is applicable to complex research settings where a study is unable, for a variety of reasons, to meet the exacting requirements of a true experimental design e.g. random assignment, establishment of counterfactuals, valid control groups etc. This sequential multiphase approach can deliver findings on the relative 'contribution' of the myriad factors influencing a result showing whether the policy intervention in this study made a contribution to an observed result and in what way? The findings from the Phase 1: Quasi–experiment, Phase 2: Case studies and Phase 3: Cross-case analysis collectively demonstrates that the policy instrument evaluated in this study made a marginal contribution at best to individual firm performance. Overall the state received a negative return on its investment (despite selecting the cohort of firms to invest in). The study concludes that, in the analysis period, the salient factors influencing value creation in the firms (and conversely the barriers to firm growth) were internal to the firm.

Keywords: sequential mixed methods, evaluation, enterprise policy, firm growth

1. Introduction

How, where, when and why Governments intervene at microeconomic level to assist indigenous small and medium sized enterprises (SMEs) largely depends on the prevailing political ideology and historical context of the state in question (Breznitz, 2007, 2012; Mason & Brown, 2011). When governments intervene at firm level they attempt, advertently or inadvertently, to *pick* or *make* winners - or at least attempt to avoid picking losers. Targeting is seen as a very attractive public policy approach when viewed from the 'market failure', 'additionality' or 'value for money' perspectives (Bennett, 2012). However there is, as yet, no substantive empirical support for this interventionist approach (Bannock, 2005; Davidsson, 2008; Bridge *et al*. 2009; Bill *et al.* 2009; Bennett 2014). This Storey (2008) attributes to the reluctance of states to properly evaluate the outputs of their policies. Evaluation must be an integral part of the micro policy conception and implementation process. It is therefore a pre-requisite for 'evidence-based' policy approaches. Indeed OECD (2004) recommends that a COTE framework be adopted in the development of entrepreneurship and SME policy – C (Clarity & coherence – the proposed theory of change for the policy instrument), O (Objectives), T (Measureable targets) and E (rigorous evaluation).

This paper investigates appropriate research approaches for evaluating the role and contribution of micro policy instruments to the subsequent performance of growth-orientated indigenous firms. It then outlines the research methodology and data analysis techniques employed to address the research objective above.

The paper is structured as follows: Section 2 outlines the research strategy adopted in the study. The research design and process is then outlined in Section 3. Section 4 explains the data collection and analysis process and the overall results of the study whilst Section 5 provides a brief conclusion section. Finally Section 6 discusses future research directions for mixed methods research in business and management research.

2. Research strategy

Quantitative approaches can be helpful in establishing *what* happened in the change process but are less helpful in establishing *why* or *how* the state intervention contributed to firm performance. Qualitative approaches can equally be helpful in explaining the why and how by providing rich contextual data. It is

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argued that quantitative (QUAN) and qualitative (QUAL) approaches can be integrated within one study if the research problem requires methodological triangulation to increase the validity and reliability of the study (Patton, 2002). This can then maximise the 'knowledge yield' of the research study (McCall & Bobko, 1990). This methodologically combined approach has increased in popularity in recent years and is termed 'Mixed methods' research (MMR) (Johnson & Onwvegbozie, 2004; Tashakkori & Teddlie, 2007; Plano Clark & Creswell, 2011). In sum, Johnson and Turner (2003) define the principles of this approach as follows:

> *Methods should be mixed in a way that has complementary strengths and non overlapping weaknesses. … It involves the recognition that all methods have their limitations as well as their strengths. The fundamental principle is followed for at least three reasons: (a) to obtain convergence or corroboration of findings, (b) to eliminate or minimize key plausible alternative explanations for conclusions drawn from the research data, and (c) to elucidate the divergent aspects of a phenomenon. The fundamental principle can be applied to all stages or components of the research process' (Pg. 297).*

Saunders (2015) suggests that whilst mixing research methods is not new (just becoming more popular in its use), it is now essential to highlight the relative importance of each selected methodology to the study in addition to justifying the sequencing (concurrent or sequential) of the constituent methodologies.

3. The Research Design and Process

The MMR approach suggested in this study is best described as a multi-phase sequential explanatory research design (Saunders *et al.* 2012:167). Quantitative analysis techniques (Quasi-experimental) are combined with qualitative - semi-structured interviews and archival data (combined in case studies and cross-case analysis) to provide the requisite methodological and data triangulation (Patton 2002). Both methodologies are of equal importance to addressing the research question in the study.

This combining of the opposing positivist and interpretivist research approaches into one study serves to highlight the overall research philosophy of the researcher - which can best be described as pragmatic (Shields 2004; Feilzer 2010). Saunders *et al.* (2012) note that:

> *For pragmatists, the nature of the research question, the research context and likely research consequences are driving forces determining the most appropriate methodological choice (Nastasi et al., 2010). Both quantitative and qualitative research are valued by pragmatists and the exact choice will be contingent on the particular nature of the research (p.164).*

Qualitative data is used to corroborate quantitative findings or vice versa in mixed methods studies (Tashakkori & Teddlie, 2009; Bryman, 2012). Hence quantitative and qualitative approaches can be viewed as complementary methods in the sense that they use multiple measures to uncover variances or patterns in the data which a single methodological approach may not have identified (Creswell, 2009). In this study qualitative data is used to gain further insight from the quantitative study results.

The initial empirical phase of the study employs quantitative methods to model the geo-demographic variables identified in the literature as most likely to be the key observable determinants or key influences on firm growth performance (Delmar *et al.* 2006). In particular this study investigates the role and contribution of the policy instrument on firm performance – using the geo-demographic variables as control variables for the independent variable of interest The empirical literature indicates that, so far, the firm growth phenomenon appears to be 'almost random' (Coad, 2009), idiosyncratic (Dobbs & Hamilton, 2007) and measurement dependent (Delmar *et al.* 2006). Attempting to evaluate the effects of micro policy instruments on such an unstable dependent variable (Davidsson, 2004) is complex and difficult as there are myriad influences on and determinants of the performance of an indigenous firm - *other than that* of state programme participation. Dobbs & Hamilton (2007) therefore recommend longitudinal research designs as the only designs that can offer the appropriate insights into the growth change process. The research design will, by necessity, require a number of trade-offs to ensure that the salient determinants – as identified by the literature– are included.

3.1 Firm performance measure (the dependent variable)

This study takes as its key performance variable (the dependant variable), the creation or destruction of shareholder value (Arnold, 2009). Increased shareholder value is created by focusing on the Return on Invested capital (ROIC), profit growth over time and high profitability levels (margin) (Baldwin, 2004). These variables are recognized in publically quoted companies over many decades as the appropriate measures of shareholder value creation. The same measures can and should be applied to small and growing firms – notwithstanding the difficulties of accessing, using and interpreting accounting measures of profit in measuring shareholder value creation (Rappaport, 1998). This can be especially problematic in new technology–based firms (NTBF's) (Audretsch & Link, 2012a, 2012b).

Given the wide acceptance and understanding of the relationship between profitability levels, profit growth, capital invested and firm value in the strategic management literature (Hill & Jones 2009; Johnson & Scholes 2009) and the corporate finance literature (Rappaport 1998; Baldwin 2004; Arnold 2009), it is appropriate that future growth performance measures in the firm growth literature have the:

> *Explicit inclusion of **company value** in future work, as this is arguably a more terminal goal than either growth or profitability' (Davidsson et al. 2009:19).*

A proprietary dataset was initially developed for the study. The dataset contains performance variables constructed from eight years financial information for all firms in the cohort. Both profitability and share value information was gathered for the two years preceding state investment to establish a base line or pre-investment performance measure. The year of the state investment was treated as year zero (the treatment intervention year). This was necessary to create a break between the 'before and after' performance measures and so develop an 'interrupted time–series logic' (Yin, 2009). Five years post investment data was also collected from the annual accounts (the post – test measure) – i.e. The value of the shareholder funds on the balance sheet at year end and also the after tax profit for the year was extracted from the profit and loss accounts. The dataset also contains the salient geo-demographic variables for all 51 firms in the study. Information on each of the proposed explanatory variables was gathered from various sources such as the FAME database (Bureau de Djik), Companies Registration Office (CRO), Visionnet, worldwide web, Enterprise Ireland Annual Reports (1998-2011) and the individual firm websites. Overall the period under investigation was 1997 – 2010 when the 'before and after' measure for each firm is included. See Table 1 for details.

Table 1: Firm sector breakdown and case selection

Industrial Sector*	No. of Firms	% of total	% of state investment	Value of state investment €'000	Case selection	% of cases
Consumer products – Furniture/ceramic/carpet manufacturing	3	6	9	4591	1	10
Food and natural resources – Agriproducts/consumer foods/natural resources	7	15	20	10089	1	10
Cleantech, medical devices and industrial products manufacture	12	25	18	9161	2	20
Software, ICT and internationally traded services	29	54	45	22652	6	60
Total	51	100%	100%	50376	10	100

Notes to the Table: * The sectoral breakdown is taken from Enterprise Ireland annual reports (1998- 2010).The four sectors in the study are each represented in the case analysis in this paper. The ICT sectors having the most cases (n=6) followed by the Industrial products (n=2) and Food (n=1) and Consumer products (n=1). Note however that whilst ICT represents 57 per cent of the number of firms in the cohort, the ICT cases in this sector captured 67 per cent of the funding allocated to the selected cases. This illustrates the preference of the state for firms in the ICT sector - particularly software firms (O' Riain, 2004; Breznitz, 2007). (Source: Enterprise Ireland, Fame database, Visionet, CRO, Firm websites)

3.2 Mixed Methods approach

This research approach is best illustrated as follows in Figure 1 below. The sample of 10 cases in phase 2 and phase 3 are drawn from the cohort of 51 firms in phase 1. Onwegbuzie & Collins (2007:296) in their typology of sampling designs describe the sampling strategy employed here as a 'nested' approach. The sample cases (N=10) were selected based on the sectoral breakdown of the phase 1 cohort of firms.

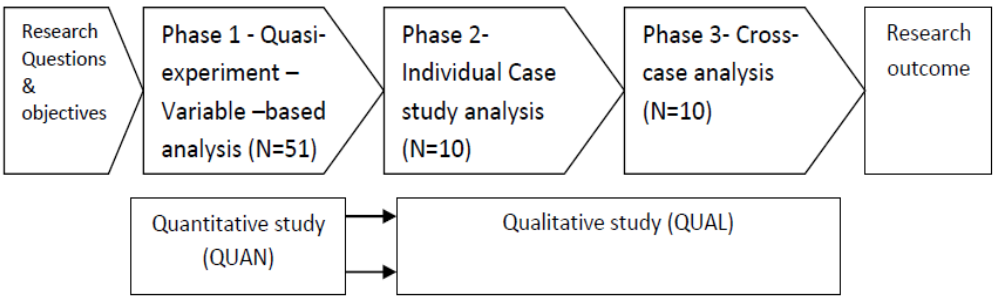

Figure 1: The Multiphase sequential research process

3.3 Phase 1 - Quasi-experimental design options

The researcher would ideally opt for a true experimental design as the best way to establish the counterfactual (White, 2009). However, in reality, this is rarely possible within the enterprise domain as random assignment between treatment and control groups cannot be achieved to a satisfactory degree (randomisation is an essential requirement for true experimental designs) (Malhotra & Birks, 2009). In the absence of randomisation, the pragmatic researcher must be contented with quasi-experimental designs (non-random assignment) with statistical controls (Morton, 2009). Indeed Storey (1999) proposed a 'gold standard' methodology in this domain which incorporated both monitoring (Client feedback – Steps 1-3) and a quasi-experimental evaluation including procedures for dealing with selection bias (Steps 4-6). Whilst conceptually appealing, Storeys 'Six steps to Heaven' evaluation methodology has yet to gain widespread acceptance. This is perhaps due to the difficulties in implementing all six steps in practice.

Practical quasi--experimental designs for evaluation purposes then are broadly of two types – those based around comparisons *across* time and these include the traditional 'before-after design' and 'time series' designs - in particular the 'interrupted time series' design. The second group of designs are those centred on comparisons across *different participants* and include Non-equivalent group designs (NEGD) and the 'Regression-discontinuity' design (Reichardt & Mark, 2004). The inherent deficiencies in the four prototypical designs mentioned above can be offset to differing degrees by adding design features such as treatment interventions, comparison groups, increased measurement occasions and /or different outcome variables. The addition of differing design features can help blur the distinction between the two broad groups of quasi-experimental designs and add to the robustness of the results from quasi-experimentation. Indeed the four designs coupled to the four broad types of design features provide myriad design possibilities (See: Table 2).

Careful consideration of appropriate combinations of designs and features can thus reduce the internal validity threats inherent in quasi-experimentation (ibid: pg. 128-129).

Morton (2009) concludes that:

> *Because quasi-experimental designs cannot establish a counterfactual situation with the same level of confidence as randomisation, the challenge is to identify and, as far as possible to minimise the effect of observable confounding or spurious variables. Little can be done about the effect of unobservable variables (Pg. 7).*

The approach adopted by the researcher therefore is contingent on the scale and nature of the programme or policy instrument for evaluation. 'Hard' (Financial) support programmes (as described in this study) require 'hard' evaluative methods whilst smaller and 'softer' (e.g. training and development programmes) use softer evaluative methodologies (OECD 2008). The methodological problems are compounded by issues around sample framing and response errors and selection bias. Valid comparison between assisted firms and other

firms (if available) can be affected by administrative selection, self-selection or moral hazard (Storey 1988; Bennett 1997). Curran (2000) therefore proposes using a combination of both quantitative and qualitative evaluation methodologies to offset the limitations of the quantitative evaluation alone.

Thus quantitative analysis methods are often supplemented with qualitative approaches which add richness and depth to the outcomes of evaluation studies. They can also provide insights to organizational or behavioural change which are due to the intervention under evaluation. Qualitative methods can also help - if rigorously conducted - in reducing bias (Mays & Pope 1995; Patton 2002). Used in combination in this study, qualitative and quantitative (mixed) method designs can provide a degree of triangulation not available through the application of a single research methodology (Bryman, 2006).

Table 2: Quasi-experimental evaluation design options and features for increasing internal validity

Design features → Design options ↓		Treatment interventions	Comparison Groups	Increased measurement occasions	Different outcome variables
Comparison across time	Before - After	The treatment intervention is the equity investment by the state	Not applicable in Irish industry as all firms receive state support	There are five annual measures of performance (ROIC) post state investment and two pre-investment	Shareholder Value creation/destruction as most appropriate dependent variable
	Interrupted Time series	Treatment intervention applicable for this design	Not applicable to this study	Requires large number of measurement occasions – not available for this study.	Requires stable dependent variable – dependent variable not stable in this study
Comparison across groups	Non equivalent group designs	As above	Non equivalent group possible but not appropriate for this study	Requires larger samples to be effective	Shareholder Value creation/destruction as most appropriate dependent variable
	Regression Discontinuity	As above	Information on firms receiving less than €635,000 not publically available	Requires larger samples	As Above

(Adapted by author from: Reichardt & Mark, 2004)

3.4 Quasi-experimental design choice

To solve the 'contribution' problem of what would have happened in the absence of state intervention it is necessary to look at the firm performance (the dependent variable) before the state investment (pre- state investment measure) and after the state investment (post state investment measure). Taking the mean performance post investment from the mean performance pre investment gives a 'Before and after' measure of any difference in performance possibly due to state investment (the treatment intervention). However there are other possibilities for the change in performance and these must to be controlled for. These include the demographic profile of the firm (Delmar et al. 2006) and the firm's geographic location (Aoyama et al.

2011). Using binomial logistic regression it is possible to access the relative influence (if any) of state investment on subsequent firm performance. The alternate approach is to use a control group or 'matched sample' - which did not obtain state support - but match the profile of the firms under study in other respects - to compare it with the treatment group. In theory this appears to be more robust. Storey (1988, 1999) however does acknowledge the difficulty of 'matching' firms, given the myriad factors to consider in relation to the characteristics of the firm, the characteristics of the Entrepreneur/Management/Ownership, the nature of the business strategy and the external environmental factors facing the firm (See also: Storey 1994; Storey & Greene 2010; Smallbone & Wyer 2006, 2012). Even firms in the same sector and locality may serve very different markets (Curran & Blackburn, 1994).

The design choice then is between research designs across time or research design across groups (Table 2). This study advocates the application of the research-across-time methodology in the quantitative part of the study. This is the most applicable approach in this study as it takes account of the recommendations in the firm growth literature, the limitations on data availability to the independent researcher and the research context in the particular state under study. Of the research-across–time options, the 'Before – After' design (with controls) would seem to be the most appropriate approach for this empirical study given the firm population size (Small N), measurement occasions available and geo-demographic information available on each population unit.

3.5 Phase 2 & Phase 3 - Case studies and Cross Case analysis

Case study methodology is appropriate in this study for the following reasons; firstly it provides a useful tool for investigating a contemporary phenomenon within its real life context as the boundaries between the two are not clearly defined (Yin, 2009). In addition multiple sources of evidence are used in compiling the case studies including interviews, databases, firm records and media reports. This diversity of sources brings multiple perspectives to the same phenomenon and is appropriate in triangulating data (Patton, 2002). Secondly Case studies offer a richness and depth of information unavailable for example in survey data (Saunders *et al.,* 2012). It offers both quantitative and qualitative contributions to the overall study complementing the quantitative analysis in the first phase of the study. By including interview data it also allows the firm's founding entrepreneur's perspective on the drivers of the financial performance measures thereby offering rich insight and further data triangulation opportunities. Finally from an inductive research perspective, case study methodology allows examination of whether the case observations (individually, collectively or sectorally) are in line with existing theory or whether they raise some new theoretical possibilities (Eisenhardt, 1989).

3.6 The case study design

Researchers go about the process of selecting case study designs in a myriad of ways however the design must in the first instance be driven by the research question and research objectives of the study in question (Burton, 2000). The data in the case studies in this dissertation came primarily from quantitative and qualitative sources. Quantitative data was collected from the published financial records of the firm, from the FAME database, Visionet, CRO, firm websites and business media sources. The qualitative information came from interviews with the CEO's or ex-CEO/Founders of the firm under study. Interviews were conducted in 2010/2011 and were semi-structured in nature. This allowed the respondents to provide a broader range of information/opinions/views than a fully structured instrument (Domegan & Fleming, 2009). Although the overall structure of the topic list presented to the interviewee was guided by the literature and the overall research objective, the respondents elaborated on the topics under discussion and this provided some unexpected additional information and insights on the research topic.

3.7 Selection of the case study firms

Case study information came from the proprietary dataset generated for this study. Ten in-depth interviews were conducted with the CEO or ex-CEO/founder of the firms under study. These firms were chosen by 'theoretical sampling methods' for their representativeness of the overall sectoral breakdown of the cohort of firms in the study (Pettigrew, 1988; Eisennhardt, 1989). Whilst there is no ideal number of cases, Eisenhardt (1989) recommends between four and ten noting that: 'with more than ten cases, it quickly becomes difficult

to cope with the complexity and volume of the data' (P. 545). Thus this study utilizes the maximum number of recommended cases (See: Table 1).

Table 3 - Firm sector breakdown and case selection

Industrial Sector	No. of Firms in study	% of firms in study	Case selection	% of cases
Consumer products – Furniture/ceramic/carpet manufacturing	3	6	1	10
Food and natural resources – Agriproducts/consumer foods/natural resources	7	14	1	10
Cleantech, medical devices and industrial products manufacture	12	23	2	20
Software, ICT and internationally traded services	29	57	6	60
Total	51	100	10	100

4. Data Analysis and Research Results

4.1 Quasi- experiment

The logistic function (the dependent variable in the model developed) is particularly useful as it can take as input any value from negative infinity to positive infinity whilst outputting values between zero and one (Garson, 2012). This would appear to be the most appropriate model here - once the desired outcome is an estimation of whether shareholder value creation in preferable to shareholder value destruction (Arnold, 2009).

The logistic regression model developed to test the relationship between State investment value and Shareholder Value was found to be statistically significant, p-value=0.031<0.05. 'Pseudo' R^2 (32.35 – 43.2%) and Hosmer & Lemeshow goodness-of-fit statistic = .457>.05. The classification table classified 78.4 per cent correct which is well above the chance 'hit rate '(PRE) for the null model of 48 per cent. Well fitting models are 25 per cent or more above the base rate. The statistical significance of the model held when the model was run entering all independent (Geo-demographic) variables in two blocks and when using a backward stepwise procedure. There was one statistically significant predictor variable - Firm age, p-value= 0.043< 0.05. Although contributing to the overall significance of the model, all other control variables and the variable of prime interest – State investment - was not statistically significant for this cohort of firms. However the state investment variable was retained in the most parsimonious version of the model suggesting that, whilst not statistically significant, it makes a marginal contribution to the performance of the logistic regression model.

4.2 Case studies

Case analysis is one of the most popular research designs in the social sciences (Yin, 2009) and the international business and management fields (Piekkari & Welch, 2011). Whilst case study design has traditionally been associated with qualitative research it has much wider application and can incorporate both qualitative and quantitative elements within an overall design.

Quantitative and qualitative data was collected on ten firms from the cohort of firms in the study (See: Table 3). The resultant analyses were then written-up as descriptive case studies using Storey's (1994) and Smallbone & Wyer's (2006, 2012) framework. The purpose was to identify possible determinants of and influences on the growth trajectories and growth experience of each firm (in addition to state investment).

4.3 Cross-case analysis

Data from these cases was then utilised in the cross-case analyses (Yin, 2009:Chap.2) to identify cross-cutting patterns and themes in the assembled data (See: Table 4 for analysis results).

Table 4: Summary of differentiating factors (Cross-case analysis) – Shareholder Value Creation and Value decreases

VARIABLE GROUPS	Characteristics of Entrepreneur	Characteristics of firm	Management strategies	Environmental influences
Influencing variables considered	First business, Gender, Age, Nationality, Motivation, Previous business experience, Portfolio, Family history, outside advisors, Business networking, Education, Number of founders, Learning ability Leadership style	Age, legal form, Size, Location.	Strategy for growth, sales or profitability focus, Formal planning, Market research, Innovation policy, Patents held, Human capital development policy, Internationalisation strategy, Exit strategy – IPO/Trade sale	Sector, Industry evolution, Competitive situation, Input costs, Geographic markets served, Domestic market importance, Market or customer dependence, E-business usage, Home location,
Differentiating variables	Growth motivation & Leadership style (Linked to Strategy) Financial Bootstrapping experience	Legal form (at end of analysis period): independent v Acquired by other firm. Age: (8.1 years creators v 3.5 years for decreasers	Growth Strategy: differentiated focus (Niche) – Profitable growth imperative (Creators) v Scale (Decreases)	Market growth - but Shareholder value Creators proactively seized opportunity to create value through market-pulled strategy. Sector

Note on table: The performance measure considered is shareholder value creation (as in the overall study). Those firms with a positive return on invested capital (ROIC) from *profitable* growth were grouped into one cohort. Three firms in the study qualified for inclusion in this group based upon their profit generation performance. The remaining seven cases all decreased – to varying degrees – shareholder value over the eight-year analysis period through unprofitable trading. Any shareholder value growth recorded by this group was a result of further capital injections only. These seven firms were grouped into the Shareholder Value-decreasing cohort.

The case study and cross-case analysis also provides corroborative material for the quantitative findings from the logistic regression model. The primary data used in the case studies was collected through semi-structured depth interviews with the founding entrepreneurs of the case firms – the key informant's (Marshall, 1996; Fletcher & Plakoyiannaki, 2011).This data was supplemented with archival information (FAME database),

information from the firm's literature and digital assets and reported information in the media. Taken together, the secondary and primary sources accessed did provide the multiple sources of evidence suggested by Yin (2009; Chap. 4).

5. Conclusion

This paper discusses the research methodology employed for answering the research question in the underlying study. It also covers the justification for employing a multiphase sequential mixed methods research design *in this study*. In addition the paper explains the quasi-experimental approach, the selection process for the firm case-studies and the cross-case analysis methodology. The findings of the study can be contrasted to the proposed 'theory of change' of the micro policy intervention (See: COTE approach – Storey, 2008). The resulting gap analysis allows policy recommendations to be made and for the results to be fed back into the policy making process thereby helping to create an ethos of 'evidence –based' policy making.

6. Discussion – Future Directions

Mixed research methods designs are particularly appropriate in non-experimental situations such as described in this paper. Using mixed methods does however demand a wider skill set from the researcher (Saunders, 2015). The mixed methods researcher must therefore stay abreast of methodological developments in the quantitative and qualitative domains and commit to a process of continuous up-skilling and competence building. Indeed Tashakkori and Teddlie (2010) refer to the need for mixed methods researchers to become 'methodological connoisseurs', just as Cameron (2011) calls for their appreciation of 'methodological trilingualism'. At the very least mixed method researchers need to adopt a 'methodologically agnostic' stance to ensure that the dominant paradigm in their academic discipline does not unduly influence their methodological and analytical choices. The combining of research methodologies in MMR studies should ultimately depend on the appropriateness of each method in helping answer the research question and in reaching the research objectives. This is the essence of the pragmatic approach (Cameron, 2011; Saunders, 2012).

However it is important to remember that mixed research methods is not the only methodological approach for small-N or intermediate N empirical studies. Configurational comparative methods such as Qualitative comparative analysis (QCA) are increasing in popularity amongst researchers. QCA is a set-theoretic methodology developed by Ragin (1987) which attempts to integrate the key strengths of quantitative (variable–based) and qualitative analysis (case-oriented) into a single methodology (See also: Ragin & Rihoux, 2009). QCA studies are beginning to appear in many disciplines in the social sciences however the methodology has yet to gain traction in the trans-disciplinary evaluation domain. QCA may have the potential to displace or complement MMR research approaches. It is too early to say whether we are witnessing the early growth in popularity of an important new research technique or the advent of the 'fourth methodological paradigm'. Either way, QCA will build on the work already done by MMR in helping to consign the research paradigm wars in the business and management research domain to history.

References

Aoyama, Y., Murphy, J.T., Hanson, S. (2011). *Key Concepts in Economic Geography*, London, Sage.

Arnold, G. (2009) *Corporate Financial Management, (4th Ed.),* London, Financial Times/Prentice Hall.

Audretsch, D B & Link, A. N. (2012a). Valuing an entrepreneurial enterprise. *Small Business Economics*, **38**(2), 139-145.

Audretsch, D. B & Link, A. N. (2012b). *Valuing an Entrepreneurial Enterprise,* New York, Oxford University Press.

Baldwin, C. Y. (2004). Fundamental Enterprise Valuation: Return on Invested Capital, *Harvard Business School*, Note 9-801-125, July 3.

Bannock, G. (2005). *The economics and management of small business: an international perspective*. London, Routledge.

Bennett, R. J. (1997). Administrative systems and economic spaces. *Regional* Studies **3,** 1, 323-36

Bennett, R. J. (2012). Government and Small Business in Carter, S. and Jones-Evans, D., *Enterprise and Small Business, Principles, Practice and Policy* (3rd ed.), Harlow, Prentice Hall.

Bennett, R.J. (2014). *Entrepreneurship, Small Business and Public Policy – Evolution and Revolution*. London, Routledge

Bill, F., Johannisson, B., & Olaison, L. (2009). The Incubus Paradox: Attempts at Foundational Rethinking of the "SME Support Genre". *European Planning Studies*, **17**(8), 1135-1152.

Breznitz, D. (2007). *Innovation and the State: Political choice and strategies for growth in Israel, Taiwan and Ireland,* New Haven, Yale University Press.

Breznitz, D. (2012). Ideas, structure, state action and economic growth: Rethinking the Irish miracle. *Review of International Political Economy*, *19*(1), 87-113.

Bridge, S., O'Neill, K., & Martin, F. (2009). *Understanding Enterprise, Entrepreneurship and Small Business*. Basingstoke: Palgrave/Macmillan.

Bryman, A. (2006). Integrating quantitative and qualitative research: how is it done? *Qualitative research*, **6**(1), 97-113.

Bryman, A. (2012). *Social research methods*. Oxford, OUP.

Bureau De Dijk, (2011). *FAME Database.* Available online at: https://fame.bvdinfo.com/version-2012118/Home.serv?product=fameneo

Burton, D. (Ed.) (2000). *Research training for social scientists: a handbook for postgraduate researchers*. Sage Publications Limited.

Cameron, R. (2011). Mixed methods research: The five Ps framework. *The electronic journal of business research methods*, *9*(2), 96-108.

Coad, A. (2009). *The growth of firms: A survey of theories and empirical evidence,* Edward Elgar Publishing.

Companies Registration Office (CRO) (2009). Available online at: http://www.cro.ie/

Creswell, J. W. (2009). Editorial: Mapping the field of mixed methods research. *Journal of Mixed Methods Research*, **3**(2), 95-108.

Curran, J. (2000). What is small business policy in the UK for? Evaluation and assessing small business policies. *International small business journal*, **18**(3), 36-50.

Curran, J., & Blackburn, R. (1994). *Small Firms and Local Economic Networks*, London, PCP.

Davidsson, P. (2004). *Researching entrepreneurship*. Boston, MA: Springer.

Davidsson, P. (2008). Some conclusions about entrepreneurship and its support. Paper presented to the World entrepreneurship Forum, 13-15 November, Evian, France.

Davidsson, P., Steffens, P. R & Fitzsimmons, J. (2009). Growing profitable or growing from profits: Putting the horse in front of the cart? *Journal of Business Venturing*, **24**(4), 388-406.

Davidsson, P., Achtenhagen, L & Naldi, L. (2010). Small firm growth. *Foundations and trends in entrepreneurship*, **6**(2), 69-166.

Delmar, F, Davidsson, P., & Gartner, W. B. (2006). Arriving at the high-growth firm. In Davidsson, P., Delmar, F., & Wiklund, J. *Entrepreneurship and the growth of firms*, Cheltenham, Edward Elgar Publishing.

Dobbs, M., & Hamilton, R. T. (2007). Small business growth: recent evidence and new directions. *International Journal of Entrepreneurial Behaviour & Research,* **13,** No. 5, 296 -322.

Domegan, C., & Fleming, D. (2009). *Marketing research in Ireland,* Dublin, Gill and McMillan.

Eisenhardt, K. M., (1989). Building theories from case study research, *Academy of Management Review*, 532-550.

Enterprise Ireland (1998 - 2011). Annual Reports. Available online at: http://www.enterprise-ireland.com

FAME database (2010). Bureau de Djik. Available at: http://www.bvdinfo.com/en-gb/our-products/company-information/national-products/fame

Feilzer, M.Y. (2010). Doing mixed methods research pragmatically: Implications for the rediscovery of pragmatism as a research paradigm." *Journal of Mixed Methods Research* 4.1: 6-16.

Fletcher, M., & Plakoyiannaki, E. (2011). Case selection in international business: key issues and common misconceptions. Rethinking the Case Study, *International Business and Management Research*, 171.

Garson, G. D. (2012). *Logistic Regression: Binomial and Multinomial*. Asheboro, NC, Statistical Associates Publishers.

Hill, C.W.L., & Jones, G. R. (2009). Theory of Strategic Management with Cases (8th ed.), South-Western Cengage Learning.

Johnson, R. B & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational researcher*, **33**(7), 14-26.

Johnson, G., & Scholes, K. (2009). *Exploring Corporate Strategy (*3rd ed.), Hertfordshire, Prentice-Hall.

Johnson, B., & Turner, L. A. (2003). Data collection strategies in mixed methods research. *Handbook of mixed methods in social and behavioral research*, 297-319.

Malhotra, K., & Birks, D. F. (2007). *Marketing Research: An Applied Approach,* Prentice-Hall/Financial Times.

Marshall, M. N. (1996). The Key Informant Technique. *Family Practice*, **13**(1), 92-97.

McCall, M. W., & Bobko, P. (1990). Research methods in the service of discovery. *Handbook of industrial and organizational psychology*, **1**, 381-418.

Mason, C.M., & Brown, R. (2011). Creating good public policy to support high-growth firms. *Small Business Economics*, 1-15.

Mays, N., & Pope, C. (1995). Rigour and qualitative research. *BMJ: British Medical Journal*, **311**(6997), 109.

Morton, M. (2009). Applicability of impact evaluation to cohesion policy, (*Unpublished mimeo), Oxford, University of Oxford – Department for Social Policy and Social Work*.

Nastasi, B.K. Hitchcock, J. H. Brown, L.M. (2010). An inclusive framework for conceptualising mixed method typologies. In Tashakkori, A., & Teddlie, C. (2010). *Sage handbook of mixed methods in social & behavioural research*. Sage Publications, Incorporated.

OECD (2004). 2nd OECD Conference of Ministers for Small & Medium Sized Enterprises, Istanbul, Turkey, June 2004.

OECD. (2008). *Evaluation of SME support programmes*. Available online at: http://www.oecd.comPatton, M.Q. (2002). *Qualitative Research and Evaluation Methods*. Thousand Oaks, CA: Sage Publications.

Onwuegbuzie, A. J. & Collins, K (2007). A typology of Mixed methods Sampling designs in Social Science Research, The Qualitative Report Vol.12, No.2 June, pp.281-316.

O'Riain, S. (2004). *The politics of high tech growth: Developmental network states in the global economy* (Vol. 23), Cambridge: Cambridge University Press.

Patton, M.Q. (2002). *Qualitative Research and Evaluation Methods*. Thousand Oaks, CA: Sage Publications.

Pawson, R., & Tilley, N. (1997). *Realistic evaluation*. Sage Publications Limited.

Piekkari, R., & Welch, C. (2011). *Rethinking the Case Study in International Business and Management Research*. Edward Elgar Publishing.

Pettigrew, A. (1988). Longitudinal field research on change: theory and practice, Paper presented at the National Science Foundation Conference on Longitudinal Research Methods in Organizations, Austin, TX.

Plano Clark, V. L., & Creswell, J. W. (2011). Designing and conducting mixed methods research. Sage, Thousand Oakes.

Reichardt, C. S., & Mark, M. M. (2004). Quasi-experimentation. *Handbook of practical program evaluation*, **19**, 126.

Rappaport, A. (1998). *Creating Shareholder Value. The New Standard for Business Performance*, (2nd Ed.), New York: Free Press.

Saunders, MK (2015). The (re)emergence of mixed methods research: to combine or not combine? Keynote address ECRM conference, Malta, June 11-12.

Saunders, MK., Lewis, P., & Thornhill, A. (2012) *Research methods for Business Students,* 5th ed., London, Pearson.

Shields, P. (2004). Classical pragmatism: Engaging practitioner experience. *Administration & Society*, *36*(3), 351-361.

Smallbone, D., & Wyer, P. (2006) Growth and development in small business in Carter, S., & Jones-Evans, D., *Enterprise and Small Business, Principles, Practice and Policy* (2nd Ed.), Harlow, Prentice Hall.

Smallbone, D and Wyer, P. (2012) Growth and development in small business. In Carter, S., & Jones-Evans, D., *Enterprise and Small Business, Principles, Practice and Policy* (3nd ed.*),* Harlow, Prentice Hall.

Storey, D. J. (1988). The role of small and medium-sized enterprises in European job creation: key issues for policy and research. *Small and medium size enterprises and regional development*, 140-60.

Storey, D. J. (1994). *Understanding the Small Business Sector,* London, Routledge.

Storey, D. J. (1999). Six Steps to Heaven: Evaluating the Impact of Public Policies to Support Small Businesses in Developed Economies. In Sexton, D., & Landström, H. (Eds.). *Handbook of Entrepreneurship*, Oxford: Blackwell, 176-194.

Storey, D.J. (2008). Entrepreneurship and SME Policy. World Entrepreneurship Forum. 2008 Edition. Warwick Business School

Storey, D.J & Greene, F.J. (2010). *Small Business and Entrepreneurship*, Harlow, Pearson.

Tashakkori, A., & Teddlie, C. (2008). Quality of inferences in mixed methods research: Calling for an integrative framework, *Advances in mixed methods research*, 101-119.

Tashakkori, A., & Teddlie, C. (2009). Integrating qualitative and quantitative approaches to research, *Handbook of Applied Social Research Methods., Thousand Oaks, CA: Sage Publications*, 283-317.

Tashakkori, A., & Teddlie, C. (2010). *Sage Handbook of Mixed Methods in Social & Behavioural Research, Thousand Oaks, CA: Sage Publications.*

Vision Net (2009). Irish corporate information website. Available online at: http://www.vision-net.ie/

White, H. (2009). Theory-based impact evaluation: principles and practice. *Journal of development effectiveness*, **1**(3), 271-284.

Yin, R.K. (2009). *Case Study Research: Design and Methods* (4th Ed.) Applied Social Research Methods Series. Vol. 5. Thousand Oaks, California, Sage.