UNIVERSITY OF DERBY

KNOWLEDGE THAT COUNTS: AN EXAMINATION OF THE THEORY PRACTICE GAP BETWEEN BUSINESS AND MARKETING ACADEMICS AND BUISNESS PRACTITIONERS EXAMINED IN TERMS OF THEIR RESPECTIVE EPISTEMIC STANCES.

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Programme Title	Year
Doctor of Education	2014

Acknowledgements

My grateful and heartfelt thanks to my wife whose support has been so essential and without whose inspiration this would never have been finished. And to my supervisor David Longbottom whose wise and sound advice has been irreplaceable**.**

Abstract

This work examines and presents evidence for the existence of a gap in epistemological views between academic and practice marketers. Few if any academics would seem to challenge the 'gap' premise but the importance of any gap and its nature are issues about which little agreement exists. The intractable nature of the academic practitioner gap has a long history of interesting and diverse debate ranging from Dewey's argument about the true nature of knowing to contributions based on epistemic adolescence, ontological differences and more pragmatic suggestions about different tribes. Others include the rigour versus relevance issue, failures in curriculum or pedagogy and a clash between modernist and postmodernist epistemologies. Polanyi's description of tacit versus explicit knowledge further extends the debate as do issues of knowledge creation and dissemination in particular through Nonaka.

Irrespective of approach actual evidence for a gap was largely based on argument rather than empirical proof. This work address that lack. The intractability of the gap suggests that it is at root, epistemic. To identity the existence of a gap in such terms a domain specific epistemic questionnaire developed by Hofer was used. A factor analytic process extracted a common set of factors for the domain of marketers. Five epistemic factors were identified. Three of these showed significant difference in orientation between practitioners and academics confirming that the theory practice gap is tangible and revealing an indication of its nature

Broadly results from factor analysis with interpretation informed by factor item structure and prior theoretical debate suggests that academics and practitioners views on knowledge and how they come to know share similarities and differences. Academics are more likely to see knowledge as stable, based on established academic premise legitimized from academy. Practitioners are more likely to see knowledge as emerging from action, as dynamic and legitimised by results. Other significant findings included the emergence of dialogue as a means of closing the gap, and the emergence of

a group of academics with significant practice experience termed here as, hybrids, who are located in the Academy but mostly share their epistemic views with practitioners. Correlation analysis showed that academic propensity to engage in dialogue with practice moved academic factor scores towards practitioners. This shows that dialogue has a clear role in both perpetuating the gap in its absence or reducing it. Fundamentally dialogue plays a clear role in bridging the two epistemologies and in providing for additional epistemic work.

Finally a solution to bridging the gap has been proposed. The model called dialogic introspection melds dialogue and introspection to create epistemic doubt, the volition to change and a means of resolution. The model avoids prescription of what form knowledge should take but instead adopts a stance similar to more mature disciplines like medicine in which the status of academic work is enhanced in line with its relevance to practice which itself is embodied in dialogue.

This approach recognises the centrality of epistemology as shaping the conditions necessary for recognising epistemologies as hierarchies in which the epistemology most capable of additional epistemic work is the most desirable. Such an epistemology would have the capacity to add epistemic work and reinforces Nonaka's call for epistemology to be recognised as central to knowledge creation.

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CHAPTER 1- Introduction

The Academic versus Practitioner Divide is an issue long discussed by business academics and by business leaders. For business practitioners the context of the discussion is usually based around a critique of the preparedness of business graduates for business practice, based either on their competencies or the traits they exhibit In respect of the needs of business. With academics it is the above but it is also research relevance and the purpose of the business school in terms of whether it is an academic social science faculty or a school preparing students for professional management (Starkey and Tempest, 2009). In fact the debate about practical relevance versus academic rigour gap is over 60 years old when in 1949 Merton (Dess and Livia, 2008) asked social scientists to "*more carefully consider the usefulness of their work*". More recently Donald Norman a distinguished academic and co founder of the Nielsen Norman Group one of the world's leading usability consultants wrote in an article in his web page that the "*gap between the two communities is real and frustrating*" and that it is fundamental because the two groups require different knowledge sets (Normon, 2010).

The theory practice gap however is not confined to just the business or marketing domains. Reed (2009) points out that it is a perennial problem in all disciplines where research and education are linked to practice

Clinebell and Clinebell, (2008) affirmed that the gap issue was extensively commented on and many academics have addressed the issue of the gap between business theory and its pedagogic application in business schools and the actual practice of management in applied situations. Levenburg (1996) suggests that the issue of how to prepare business school graduates for practice has not been adequately resolved and weaknesses in the curriculum in this respect are well documented (Anderson, 1992, Bandyopadhyay, 1994).

The question underpinning this work is why after over half a century of debate does this gap still persist?

1.0 Background

30 years ago Dikinson (1983) wrote that "*communication between business academics and the business community appears to be minimal…academics have little interest in practitioners and their ideas"* (p51). In 2009 Riebstien proclaimed about marketing in particular that *"there is an alarming and growing gap between the interests' standards and priories of academic marketers and the needs of marketing executives".* A number of other writers during the period from Dickinson to today have argued for the existence of the gap between theory and practice in management or marketing in various forms with and with various degrees of concern (Baker and Erdogan, 2000, Baron et al, 2011). To understand the nature of the gap we have to understand the various strands relating to the 'gap' theme. These are varied and no single uniform theme underpinning the TP (theory practice) gap has emerged. Significant strands include discussions on the academic practitioner divide (Brennan, 2004, Brennan and Ankers, 2004, Baker, 2001, McDonald, 2003b), the relevance gap (Bennis and O'Toole, 2005, Piercy, 2002) or estrangement from practice (Baker, 2008). In their influential article published in the Harvard Business Review, Bennis and O'Toole (2005) argue that virtually no top ranked business would hire tenured academics because they lack a real world business track record. Wensley (Worrall, 2008) reinforces the argument that business sees little competitive advantage in consulting academia. Many of these arguments emerge from the academy's need to publish and arguments are made that this creates a perverse incentive, prioritising rigour over relevance (Bartunk and Rynes, 2010, Baron et al, 2011)

The issues of values and skills also form other themes by which the gap is explored. Numerous researchers (Achenreiner, 2001, Archer and Davison, 2008, Bovinet, 2007, Dacko, 2006, Davies et al, 2002, Dent and Curd, 2004, Dent et al, 2004, Gray et al, 2007, Hodges and Burchell, 2003, Kantrowitz,

2005, Ljunquist, 2008, Waller and Hingorani, 2010) have explored the skill sets that business wants. Values of academics and how they influence the gap have been explored (Hackley, 1999b, Harley et al, 2007). McColes (2004) discussion paper fails to identify a single theory developed by academic marketers for practice marketers and criticises the ill-defined (P533) theoretical underpinnings of marketing theory. He argues that this points to the systemic failure of the 'trickle down' view of the knowledge supply chain characterised by Van de Ven (2002) as a socialized academic world view of knowledge creation by academic researchers, adopted and diffused by consultants and practiced by managers. The role of the academic textbook is also subject to critique (Ardley 2008, McCole 2004)

The effect of epistemic outlook has been the subject of research in a variety of academic versus applied contexts including Haggis (2004), Schon (2001) and Wilkinson and Migotsky (1994). Business studies is often criticised as vocational in nature and intellectually unchallenging, O'Hear,(1988), Tight (2002), and others. Others talk of academics as spectators (Dewey, 1938a) emphasising rigour over relevance through an academic culture based on envy of traditional university subjects like Physics (Tapp, 2004).

Assudani (2005) outlines two differing epistemic frameworks that obtain in academy and practice. These are modernist epistemologies of possession where knowledge is owned and by individuals and "associated with the Academy". Alternatively epistemologies of action or process are more postmodernist and likely to see knowledge as dynamic, emergent and contextual and are more likely to be rooted in outcome, tacit in nature and potentially more practice orientated.

The rigour over relevance argument and its basis in academic incentives has a long history of debate but the influence of epistemologies on the outlooks of academics and practitioners has had only small attention. Yet such influence could play a significant role in underpinning the gap. The core of this research is the nature of the principle dichotomy, that of academic/practitioner or knowing-how/knowing-what (Stanley 2001). Within the context of the

marketing discipline, this thesis examines the reasons for the continuation of that gap. In particular I examine the potential that these opposing currents have in underpinning the divide between academy and practice. The research will examine epistemic differences as a contributor to the gap between two possible world views of practitioners and academics, together with the examination of other forces for disassociation.

Does the gap matter? Could it not be part of a dynamic, pluralistic academic environment in which academic knowledge is created and it is up to practice to interpret and use? As Kayes (2002) puts it, theorists need to be able to justify their teaching as relevant to management by asking the question *"why is learning important for managers*?" In effect epistemology involves the development of a vocabulary that "*constitutes legitimate knowledge in a profession*" (Kayes, ibid) and informing curricula around a language that may lack practitioner relevance has significant implications.

Academics will be evaluated through university business school marketing lecturers and practitioners via practicing marketers. Any gap will be revealed through the identification of the epistemic values of each group. The study of personal epistemologies has emerged in recent years and in particular Hofer's instrument the DEBQ examines domain specific epistemic views based on how professionals come to know and what type of knowledge they value

My audience is mainly universities themselves. My aim is to raise awareness of how epistemic values can subtly influence the maintenance of the TP gap. My perspective as a former practitioner is not to disassociate myself from any specific position but from the perspective of understanding the gap and looking for means to facilitate an improved practice-theory dynamic.

This could be summarised in the following broad question:–

> *Do academic and applied marketers have different value orientations in respect of their views on knowledge. In particular what are the main factors underpinning the epistemologies of academic and applied*

marketers and is there any variance in their views towards these orientations.

I hope to be able to identify a new and rigorous framework for addressing the academic practitioner gap, namely the nature of the epistemic gap between the academy of marketers and practitioners. By evaluating any such gap in terms of attitudes towards what constitutes relevant, valid knowledge and by identifying any gaps between the two groups in respect of their views on these key epistemic factors, we could begin to see a clear, foundation for the gap's persistence. The illumination of the factors acting to sustain the gap could lead to opportunities to understand how the TP gap could be addressed at a fundamental level.

The objectives of the principle thesis sections are shown below –

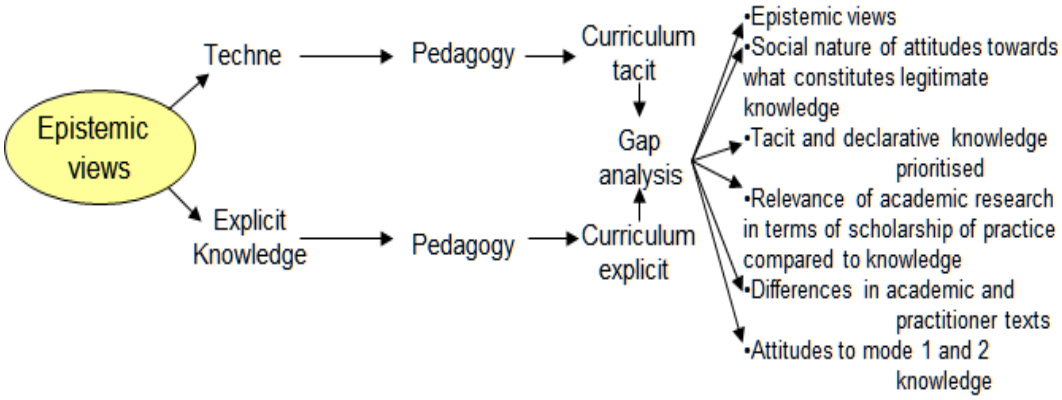
1. The literature review will examine the various strands of the 'gap' argument
2. Primary research will identify the principle factors making up the epistemic views of academics and practitioners and measure any gap between them in this respect.
3. My goal is to throw light on the origins of the theory practice gap, to stimulate debate on the epistemic differences between theory and practice and so provide a means for academics to understand the epistemic issues that underpin practice, in turn influencing the design of curricula and pedagogy

This leads to two specific research questions outlined in more detail in the next section. Briefly these questions address two fundamental issues. The first involves exploring the main strands of research and thinking which make a significant contribution to the theory practice gap debate. The second involves the identification of the main epistemic factors underpinning practice and academic views on knowing. Should there be any significant gaps between the two groups in respect of these factors then we have some evidence for the existence of a fundamental epistemic gap between them.

Such evidence would underpin the nature of the persistence of the TP gap although explored in the context of marketing. Context is itself an important issue as epistemic views are themselves contingent on context and domain specific (Hofer, 2000).

1.1 Scope and issues addressed

The diagram below shows the range of issues which contribute to the TP gap
Figure 1 Issues underpinning discussion of the TP gap



Source: writer

1.2 Statement of the problem

In a special issue of Marketing Intelligence and Planning "The academic practitioner divide myth or reality" Bruce and Schoenfeld (2006) observed that no one came forward to defend the myth side of the argument. This strongly suggests that the gap idea is relatively unchallenged by academic marketers. That business practitioners' do not turn to text books or academic marketers for consultancy gives weight to the notion that business practitioners also see a gap.

There are conflicting views over the importance and scale of the problem but my interest is that the TP gap has a social epistemic context which helps explain its intractability. Models for this view include communities of practice, or an invisible college based on reference groups or professional group membership; social constructivist viewpoints point to the social nature of knowledge generation and transfer (Warmoth, 2000) and concepts of organizational epistemology in which organizational knowledge is seen as emerging from an organizations self-referential identity, (von Krogh and Roos, 1995). If as Baker (2008), suggests academic marketers experience isolation from practice then knowledge will tend to be created as a social construction to satisfy the needs of the academic social community not the wider separate business community. Hence I would argue that the gap may have a significant epistemic underpinning based on academic views of what constitutes worthy knowledge. Thus by examining the factor analytic epistemic structure of the two groups, any significant observable difference suggests that the gap is real and identifies the factors contributing to the gap. .

General question –

The broad aim of this research is to identify a set of epistemic constructs which form the basic epistemology of marketers (both academics and practitioners). Positions on these views can then be compared between each group and any gap will identify on which epistemic factors the two groups diverge and this will form the basis of the gap between academics and practitioners. Following the identification of any gap a broad model of practitioner epistemology can emerge which coupled with research identified in the review of literature could allow a fuller description of the shape and nature of an epistemology for marketing practice.

> To explore the academic practitioner gap in terms of the factors that underpin the epistemic beliefs of marketing academics and practitioners about the nature of knowledge underpinning the discipline and to measure any variance between the two groups with respect to the factors that emerge. From analysis of any gap an outline of a

broad description of an epistemology of marketing practice and how this might differ from a domain specific epistemology of academy should emerge.

This led to the following specific research questions –

1.3 Research questions and objectives

The research questions developed to pursue this problem are –

1 To explore the nature and scope of the academic practitioner gap in business

a) To establish the existence and significance of the gap in the research of academics
b) To identify the major strands of difference and explore the main themes by which academics have sought to explain this gap

2. To identify the domain specific factors of epistemology of the marketing community and to identify and identify any differences between academics and practitioners

a) What is the structure of the domain specific epistemic beliefs of practitioners compared to academics
b) To identify any significant gaps between academics and practitioners in respect of these

3 To develop a means of closing any emergent gap between academy and practice.

1.3.1 Objectives

- To examine the nature and scope of the academic practitioner divided in business
- To explore the major strands of intellectual thought and expression through which the theory practice gap has been explored
- To identify the epistemological values of academics and practitioners
- To identify any variance between the two groups in respect of these factors to reveal the epistemic underpinnings of the TP gap
- To develop a means of closing the theory practice gap in marketing
- To gain experience in and knowledge of factor analysis and research methodology

1.3.2 Justification (professional and personal)

Many researchers have sought to identify the cause and nature of the theory practice gap in business and marketing. Despite this the gap remains persistent. Does this matter? I believe so as the credibility and success of the discipline risks being compromised if practitioners are not engaged with faculty. The nature of the gap has been discussed in many articles and much research has been done to identify the nature of the gap. Although numerous writers speculate that different value orientations underpin the maintenance of the gap no one has measured the epistemic stances of the two communities to see if they differ. If they do differ than it will show that the gap has value elements. But significantly it will be apparent on which epistemic constructs the difference occurs.

The original nature of this research is that it seeks to address the fundamental nature of the divide in terms of the epistemologies of academics and practitioners and by identifying the epistemic differences between the two groups, develop an initial model for the closure of the gap. By identifying the basic domain constructs of the discipline and differences between two groups

a basic model of an epistemology of theory practice can emerge, as well as a framework for addressing the closure of the gap

1.4 Significance of the study

The study will add to the intellectual debate on the issue of academic-practitioner divide in business and point to a way of addressing the gap and its closure and can provide an insight into how universities can address the limited effect they have on industry management practice. By identifying what underlying epistemic and factors contribute toward maintaining the gap, Business Schools and practitioners can reflect on how the gap can be closed in a significant way.

This research will enable academics for the first time to identify the epistemic underpinnings of marketing academics and practitioners and see how the respective domains differ. The resultant model of domain specific practitioner epistemology that emerges will help marketing faculty's understand their own individual epistemic positions and address them.

1.5 Methodological Approach

Epistemic values of academics and practitioners will be evaluated by a factor analysis using the DEBQ, Hofer's discipline focused epistemic questionnaire. This will be administered to a large sample of marketing academics and practitioners. The dominant primary research paradigm is an amalgamation of interpretivist and positivist allowing for inductive conclusion drawing based on prior studies about the nature of the epistemic factors that may emerge. The data collection instrument is validated by prior study (Hofer 2000). A validated instrument was chosen because I wanted to identify whether factors common to those identified by Hofer and Pintrich would emerge or discern some difference with prior research. The instrument also has some track record in identifying epistemic factors of professional design practitioners which allows for useful analysis of results in identifying common or domain specific epistemic factors between practitioner groups.

Should significantly different epistemic values emerge between the two groups we have strong evidence that the gap is perpetuated by epistemic and value differences between different cultures

1.6 Clarification of terms and assumptions

The focus of the primary research will be on the epistemic attitudes and factor analytic value constructs of trait preferences of marketing professionals and academics

However much of the literature and existing research on the theory practice gap relates to a wider general area labelled management. Other material relates to undergraduate or postgraduate teaching in business schools. Equally research relating to management could be carried out in country specific situations or other contexts. Broadly I assume that comments about business schools can be seen as generalisable across business school academic situations. Where this may not be the case either I will not cite the research or I will make clear any limitations or partiality and cite the particular research contest involved. Similarly in applied business contexts research relating to different disciplines but which will allow inference from such instances may be used as generalisations about business practice.

1.7 Limitations

The study seeks to identify epistemic factors for the population of academic/practice marketers and identify gaps between the two groups. A full epistemology of practice or theory is outside the scope of a single research study. However an outline of such is expected to emerge from factor analysis and previous research. The gap of course may also be the product of environmental issues as well as other factors.

Chapter 2 – Review of the Literature

2.0 Introduction

This section reviews the key literature related to the research goal of understanding the issues which underpin the gap. The aim of the review is to identify the various strands of significant argument and to assist in construction of the research framework. The gap can be evaluated through a number of frameworks and these are outlined below.

Marketing is not alone in seeing concerns about the theory practice gap and apprehensions occur across a range of management disciplines including accounting, strategic management, and human resources management (Hughes et al, 2011). Arguments for the gap in marketing have been made by a number of authors (Baker 2001, Baker and Erdogan, 2000, McCole 2004, Bruce, 2006, Mentzer and Schuman 2006, Riebenstien, 2009, Baker 2010). Levey (2002) describes the theory practice gap as a recurring conflict.

A significant criticism of business schools relates to the relevance of their research output (Starkey and Madan, 2001, Benis and O'Toole, 2005). The issue of lack of practice experience amongst researchers is cited (Baker 2010) as a contributing factor to the persistence of the relevance gap.

The role of marketing theory in relation to practice expertise is evaluated. An examination of the nature of expertise suggests that practice expertise in academy or business practice has a domain specific nature, reinforcing the TP gap through the exercise of expertise in differencing academic and practice domains. The position of marketing theory and the nature of expertise itself are evaluated in the context of the marketing curriculum

The debate over engagement and gap can be viewed on two levels. The first relates to practical issues such as research relevance, engagement or estrangement between the groups. On the other hand the gap can be framed

as epistemic, knowledge or language based, or through the creation of knowledge through action or in practice, via for example, Dewey (1938, a, b) or Cook and Brown (1999)

I review early criticisms of business teaching and in the two cultures section examine arguments that the TP gap is underpinned by structural and agentic forces that shape the social environment of academics and hence their ontological and epistemic views on the legitimacy of different types of knowledge.

The epistemic nature of the TP gap is examined through an examination of the influence of traditional and postmodern epistemologies on the value orientations of academics. The role of communities of practice and the constructs of knowledge and skills appropriate to maintain membership of those communities and how these influence the academic practitioner gap is also developed to reveal the social nature of knowledge constructs and their position as outcomes of social processes within the Academy. By contrast epistemic underpinnings of practice is considered though Schon's (1983) critique of traditional academic epistemology together with Dewey's (1938a) contribution to an epistemology of practice in education based on warranted assertability. Knowledge creation and transfer has substantial relevance to the academic practitioner gap. The creation and management of knowledge is itself bound up with attitudes towards knowledge legitimacy and types of knowledge. The influences which shape the theory practice gap through the ways in which knowledge is created and used are examined here through the perspectives of, tacit and explicit knowledge frameworks, modes 1 and 2 knowledge, and in particular Nonaka's contribution to knowledge creation

Another strand of the argument includes perverse incentives which inhibit academics from closer engagement with practice and include issues like the reward for publishing in academic journals leading to the relevance over application argument, or instrumental against intrinsic goals of education.

The TP gap is a complex space. Forces of division can be explained from a number of disciplinary views. The key aim of this review is to provide a structure which identifies those differing discipline views and from them puts forward the main arguments relevant to the gap.

2.1 Evidence for the academic practitioner divide in business

Here I will examine intially the arguements for the gap's existence and review the major strands of argument.

2.1.1 Perspectives on the academic practitioner gap

In this section I want to reflect the range of views about the gap's, nature and characteristics as well as look at arguments about reasons for its existence.

In this first section I review the range off arguments about the gap's foundation whilst in the following sections I will explore in more detail the major strands of argument from the literature. Some of the literature is based on US business education, however Ivory (2006) comments that many of the criticisms are applicable to the UK situation but much reflects UK specific situations. Some arguments reflect management or business education generally whilst others reflect marketing in particular.

The existence of the theory practice gap seems to largely be taken for granted by the academic and practice communities and little argument exists for its absence. Bartunk (2007) reported that questions about a theory practice gap in management had been around since at least 1958 and that *"multiple answers had been given, throughout the past 50 years"* (p1324). It has been the subject at least three Academy of Marketing conference's since 2000 (http://www.academyofmarketing.org/conference-history/conference-history.html). The Economist, (2010) citing Bennis and O'Toole, put the view that MBA students curricula were insufficiently focused on practice and over emphasised scientific research. The issue is a pernicious one and is a

significant issue for the Academy. The outgoing presidential addresses of four outgoing presidents of the Academy of Management have highlighted the issue (Bansal et al, 2012). Different fields also show evidence of similar disconnects between theory and practice. Both Belli (2010), and Brennan (2006) acknowledge the debate about research relevance in business research generally but also provided some context in showing evidence that such debate occurred in other applied disciplines including education Kennedy (1997) and nursing Fink and Thompson (2005),

Generally arguments for the gaps existence are made by a number of academics including, Dess (2008), Rynes et al (2003), Bailey (2002), Shapiro et al, (2007), Baker (2001) and Boddy (2007) who all discuss aspects of the academic practitioner gap. Bruce and Schoenfeld (2006) observed in special issue of Marketing Intelligence and Planning, “The academic practitioner divide myth or reality” that no one submitted a paper defending the myth argument which suggests that the divide idea is relatively unchallenged in the minds of academics

Other writers examine the gap from specific viewpoints like the gap between theory and practice in advertising, Nyilasy and Ried (2007) and Gabriel et al (2006), whilst Baines and Brennan (2009) argued that a gulf existed between academics and practitioners in marketing research.

Arguments for the inhibiting effect on the marketing disciplines ability to progress because of the gap have been made by Hunt (1992), Tapp (2004), whilst McDonald (2003b) proposes that a disconnect from practice is the cause of a contemporary marketing practice malaise. A view endorsed by David et al (2007, p10) in the US. Whilst McDonald is critical of the practice community he reserves significant criticism of the academic community for being out of touch with practice and for retreating to abstraction rather than application and that this disassociation from practice is harmful to both sides and is contributing to the disciplines failure to develop more influence in corporate strategic decision making.

Shorley also observes citing Callaghan (1976) and Pfeffer and Fong (2002) that business school research has 'long been denigrated' by a focus on academic interest rather than addressing the needs of practice. Similarly arguments are made that a focus on publication metrics is itself a root cause of disengagement (Adler and Harzing, 2009, Clarke et al, 2012) but also an activity that disconnects academics "*from the way in which the rest of the world thinks and operates"* (Giacalone, 2009). Pressure on business schools to publish in academic journals for reasons of institution ranking and its attendant impact on institution image is presented as a strong influence on academy to focus on image rather than influencing practice (Antunes and Thomas, 2007). Endorsing the argument on rankings malign influence Gioia (2002) further argues that ranking criteria emphasise enhancement of institution reputation measured against criteria that may not enhance educational provisions and act to move institutions away from enhancing their educational provisions toward developing institutions standing. A process labelled by Mayer as an example of "*perverse learning*" (Mayer and Gupta, 1994)

In another strand of argument The Association of Business Schools (ABS, 2012) criticised taught course in business schools for "*lack relevance, topicality and application focus*" and that courses reflect academics interests rather than the needs of business. Whilst Dacko (2006) and Maes (1997) criticised business schools for failing to provide the skills and competencies' that students need in the workplace. A situation the Wilson report (2012) sees as becoming more significant as graduate employability becomes more prominent. Whilst Bennis and O'Toole (2005) identified several areas of criticism of academic business education that characterise the influence of the gap including –

Failure to impart useful skills
Failing to prepare leaders
Less than relevant curriculum
Focus on narrow research interests at the expense of practice

We can see from this that this that the theory practice gap is a complex space and the gap can be framed in a number of ways, In a comprehensive review of arguments surrounding the theory practice gap Fendt et al (2007) list nineteen separate arguments describing the nature of the gap. Grouping these into the major issues provides an overarching view of the arguments put forward. The groups are – predominance toward modernist reductionism, poor relevance, immature theatrical coherence, and different use of language. This last point is supported extensively elsewhere in terms of Gibbons modes 1 and 2 knowledge, Polanyi's tacit versus explicit knowledge as well as argument about knowledge for theory or for doing which will be explored later. Other frameworks include Reed (2009) who discusses Van Den Ven and Johnson's analysis of the 3 major ways in which the gap has been framed. These are issues of knowledge transfer, conflicting philosophical views and as a knowledge production problem. Ivory et al (2006) analysis of the nature of the gap characterises three main themes which he presents as dichotomous issues.

Conflicting themes in the debate on Business Schools Ivory et al (2006)

Research is too abstract	Insufficient rigour for a social science based research
Teaching is too theoretical	Teaching is not distant enough and sufficiently critical of practice
Business education makes little impact on business practice	Business schools have a negative impact on ethical behaviour

Presenting these frames as dichotomies reveals the tensions which underpin the debate but also that the issue of how business schools relate to or serve their stakeholders in terms of knowledge production. Ivory makes clear the countervailing arguments from academy that act as a brake on closure of the gap, in terms of the academies need for distance from practice to sustain rigour and a spectator perspective to permit criticism, both of which support academic legitimacy from which robustness and truth validity arise. Characterising the current situation as 'muddling through' the authors imply a

lack of clarity about the way business schools address these dichotomies. The authors go on to lay out a set of four typologies drawing on the work of Starkey and Tiratsoo (2007, p16) which would broadly dismensionalise business school identity in two ways based on the balance between teaching and research and organisational and scholarly impact. Hughes (2011) frames the academic-practitioner gap debate as underpinned by two fundamental issues - epistemology or the nature of scholarly work in management and as a structural issue about incentives rewarding a disconnect from practice by prioritising the use of academic language in knowledge creation and knowledge dissemination via academic journals.

Thomas (1997) and Wilson (2002) claimed that this 'on-going debate' showed the existence of a theory practice gap and called for the teaching community to escape their ivory tower to focus and engage with the needs of practitioners (Thomas, 2004), Riebenstien et al (2009 Guest ed AMA) and Baker (2007) supported this view but also suggested that academic marketers were losing practice influence as a result of an overly abstract research agenda. In particular they point to other academic fields adopting previously marketing domain issues through a process they characterise as 'benign neglect' by the marketing academy and by addressing them in a more applied manner gradually adopting them into their own academic domains

McCole's (2004) discussion paper supports the argument that the academic practitioner gap is now a chasm and that academic marketers need better understanding of marketing practice, outside the ivory tower. He adds, in a critique academic research, that "*it is difficult to recall a single theory that has been developed by marketers for marketers*" and that there is unequivocal evidence that academic marketing fails to reflect contemporary applied marketing practice. However whilst McCole is trenchant on the existence of the gap he characterises this as a 'mid-life crisis' and whilst critical of traditional marketing principles enunciated in academic texts he does argue that academic marketing principles play an important role in developing student understanding.

As we have seen a major strand of criticism is that practice disregards research output. Dossabbhoy and Berger (2002) cite an AACSB (Association of Advanced Collegiate Schools of Business) viewpoint report which found that business school research was virtually ignored by management executives. Described by Dossabbhoy(ibid) as a landmark study, Zoffer (GMAC, 1990), wrote–

> *"We need to create a more real world environment…either you've got a practitioner who knows nothing about scholarship or an egghead who knows nothing about practice. These worlds have got to begin merging"*

Keleman and Balsal (2002) Tranfield and Starkey (1998) and Starkey and Madan (2001) argue that this disregard means that management research has little effect on management practice a point supported by Worral et al (2007) who also point to a decline in business funding for academic research. Worrall supports the notion of lack of effect on practice arguing that managers rarely consult academics to solve problems and that academics rarely address practitioners in framing their questions or '*for insight in interpreting their results*'. Ryne's (2001) went on to argue that

> *"the pervasiveness of the research-practice gap has led thoughtful observers to conclude that its origins are deeply embedded in academics' and practitioners' most basic assumptions and beliefs"*

Worrall's literature based article with the support of Ford (2005), Brannick and Coghlan (2006) and Constantine et al (2004) endorses the argument saying that there is widespread concern amongst both academics and practitioners that academic research fails to support the issues firms face in contemporary practice conditions. A recent report by The Association of Business Schools (ABS, 2012) acknowledged that there was an issue with business school contribution to "*the success of British business*", indeed Worrall, (2008) points out that University based management researchers share of the 2004/5 business consultancy market of £10 billion was just 0.1%. But acknowledged

that there were many examples of faculty research that had produced knowledge of service to practice and outlined a number of examples of academic practitioner collaboration. The general picture the report outlines is of a general lack of engagement with practice a point supported by David (2011) and Southgate (2006) although this is a US study support for the notion comes from a study of marketing academics referred to already in connection with marketing textbooks (Baines et al, 2009) who found evidence that academic marketers and practitioners rarely met or engaged but ran along parallel tracks investigating similar issues but only engaging within their own groups with their own media. This raises a key strand, or the remote from experience argument. Bonoma (1998) and McNamara (2006) offer estrangement from practice as a key element of the gap arguing that academics rarely instantiate dialogue with practice preferring their own secular conferences an argument which has support from (Baron 2011, p294), maintaining that there was a strong demand by practitioners for academic views on business issues but who suggested that it was academics who were reluctant to speak to practitioner audiences or the wider community, and that this disconnect fails to develop a practice based perspective in students or enhance managerial skill sets. This estrangement can also be explained by the lack of practice experience of some academics Baker (2007). In their Harvard Business Review article, Bennis (2005) argues that leading business schools would not hire or promote academics whose main background was practice or whose main research outlet were practitioner journals. Gaps based on remoteness and self-referential systems have led to a number of researchers arguing that bridging the rigour-relevance gap will be very difficult (Wolf, 2012, p 179)

The issue of separation between the two groups based on differing philosophies toward knowledge or epistemic beliefs (Shrivastava, 1984, Rousseau, 2008,Van de Ven, 2006) is an important topic and itself splits into a number of strands including differing languages, different belief systems stemming from cultural differences with academics preferring to provide information whilst practitioners prefer discussion Amabile (2001) as well as fundamental views on the nature of management knowledge and action.

Reporting on the 2007 Academy of Marketing Conference conversations, Baker (2010) found a widespread belief amongst practitioners that the domains of academy and practice were largely separate. At the same conference four years later Baron et al (2011), reporting from the Academy of Marketing Conference Liverpool 2011 suggested that because academics speak a different language from practitioners there is a reluctance to put them in front of practice audiences which may explain Davids (2011) argument. This different language is characterised as a focus on methodology (reliability) and minutia rather than application Amabile et al (2001). A number of researchers have argued that bridging the rigour-relevance gap is challenging (Nicolai, 2004, Rasche, 2009, Kieser, 2009) owing to the different goal perspectives of the two communities Indeed Nicolai (ibid), Kieser (ibid) and Rasche and Benham (ibid) have argued that management scholars and practitioners live in two different systems largely isolated from each other and each self-referent. A point supported by Reed (2009) who argues that academic researches and practitioners "*draw on different belief systems*" based around differing methodological and ideological underpinnings. The argument was further developed by Marcus (1995) who reflected that whilst 'applicability' of research was cited as the most important criteria for researchers, the persistence of scholastic management research's frequent inability to integrate rigour and relevance led some researchers (Wolf, 2012, Kieser 2009, and Rasche 2009) to argue that practitioners and researchers belong to different, self-referential systems. Mathiassen (2012) and Kieser (ibid) give the example of researchers thinking using a true-false frame, whilst practice uses a relevant-irrelevant one. Or a
s Luhmann (1982) expresses it, in terms of utility or income. Such situations argues Rasche (ibid) are maintained because communications between groups are filtered or distorted to permit only information conforming to each groups 'historical logic' to be admitted for use.

The career lifecycle of academics also has influence on the TP gap as does the attitudes of faculty towards knowledge production. For example research orientated faculty may expect a junior academic to build their reputation through publishing in academic journals and through citations before moving

later into more practice orientated work which is less likely to result in publication in high ranking journals, nor is that its aim. This suggests that faculties' attitudes towards what they expect from academics at different parts of their career lifecycle can have a significant effect on academics engagement with practice and the extent to which such engagement is visible in academic journals.

Other reasons cited for the gap are numerous and much of the following sections in this chapter reflect on them in detail. These include the prevalence of a modernist epistemology leading to a reductionist scientific model, Boddy (2007). A persuasive argument made by for example Becher (1994) is that knowledge is mediated by cultures and academics and practitioners inhabit different ones. Another significant cause of the gap is the suggested weak epistemic nature of academic marketing resulting in poor agreement over curricula content and teaching approach. That academy and practice use different types of knowledge is seen by some as a cause of the gap. In particular Gibbons notion of modes 1 and 2 knowledge (Gibbons et al, 1994) and Polanyi's description of tacit and explicit knowledge (Polanyi, 1966) are cited.

The following section examines the criticism of issues that influenced business school its development away from practice

2.1.2 Early criticisms of business teaching and the scientific model

The move towards a more rigorous, academic and scientific approach to teaching and understanding what constitutes business knowledge or theory essentially emerged as an academic response to early criticisms of business schools as trade schools dispensing anecdotal stories (Bennis and O'Toole, 2005). Early concerns about academic rigour led to criticism that the academic quality of business programmes was low (Clinebell and Clinebell, 2008, Gordon and Howell, 1959). Progress toward a scholarly form of discourse and the beginnings of the opening of the relevance rigour gap can

be seen in the 1960's report published in the US by the Ford and Carnegie Foundations (Crozier, 2004, Cunningham, 1999a, Zinkham, 2003) which advocated a more thorough level of scholarship based on principles of scientific management. The reports criticised existing approaches to scholarly research in business (including marketing) as too descriptive, and in need of a more rigorous, quantitative, and sophisticated treatment. In the 70's this underpinned a conceptual revolution in marketing scholarship by developing awareness of the philosophy of science and the use of theory from other disciplines to marketing problems. This period marks the beginning of the trend amongst US marketing authors to describe themselves as scholars and to see their work as scholarly (Crozier, 2004, Cunningham, 1999a). Crozier (2004) recounts views of the then editor of the Journal of the Academy of Marketing Science who criticised the opinion of some academics that managerial relevance had primacy over academic rigour. A view more recently echoed by the editor of the Journal of Advertising who says: "*I do believe of course, that theory based papers should have something to say about practice….but it is my belief that the best way to make contributions to advertising practice is by building a solid theory of practice" (Zinkham, 2003).* As Cunningham (op cit) puts it, marketing became dominated by the reductionist paradigm of logical reductionism with the outcome that managerial problems were addressed as technical challenges with solutions that lost relevance in the search for academic rigour. The language of discourse became more technical and status achieved by the researcher depended on clinical application of scientific discipline demonstrating mastery of principles to win publication and respect of colleagues, not on solving managerial problems. Managers not accustomed to scholarly language increasingly saw little point in referring to academics or reading academic journals for solutions.

In the UK out of the old more relevance focused polytechnic business schools became university business schools and began to adopt a model already respectably used by academic subjects like science and economics. A model that emphasises rigour over relevance (Clinebell and Clinebell, 2008, Thomas, 2009, McNamara, 2006). This model of scientific respectability at

the cost of relevance and supported as Bennis (2005) reflects by an inward looking business school establishment whose point of reference is the academic community has created academic respectability at the cost of research relevance and estrangement from the business community.

As van Aken *(2001)* argues the *'scientization'* of business followed the model of the Social Sciences whose teaching mission was the training of researchers rather than professionals and the prioritization of rigour over relevance. Perhaps because rooted in what Barwise (2007) calls "*Physics envy*" business schools wanted to embrace the scientific research process.

The debate about whether management is best reflected as a science or as reasoned practice is a good example of dichotomy brought about by the scientization of management research. Durand and D'Ameron (2008) suggest that for followers of the North American tradition, UK business schools share the assumptions and tradition of their American counterparts, where the academic community sees management as a science but the practice community as a set of reasoned practices. But Mintzburg and others (Jeffcutt, 2004) argue that management is not a science. Mintzburg (2004) accepts that managers use a science or rational model particularly in analysis but argues that effective management is based on an amalgamation of art, craft and science. He criticises business schools and researcher use of an overarching scientific management model for its exclusion of the art and craft or techne elements of management. He argues citing Hill (1992) that in the absence of experience of management, students (and academics) have no shared understanding of what constitutes management practice.

2.1.3 Business School Research – the relevance versus rigour debate

The issue of relevance is a longstanding one for business schools and has led to numerous calls for increased attention to relevance and practice usefulness and it is a very significant strand of the 'gap' debate

diStanton (2006) discusses the debate about relevancy of marketing teaching and academic research citing Baker and Holt (2004), Catterall et all (2003), Koch (1997. Whilst Ankers and Brannan (2002), McKenzie and Swords (2000), Grey (2001), Augier and Markch (2007), Clinebell and Clinebell (2008), all discuss the nature and causes of the relevance gap. Baker and Erodigan's study (2000) amongst marketing academics identified relevance and rigour as a key contemporary issue. More recently this argument was supported by Baron (2011) who argued that the rigour required for academic publishing makes practice relevance hard to include. Some critiques of academic relevance argue that the impact of academic research on practice is negligible. For example Bansal (2012) asserts that that academic research often completely fails to address practice interest and whilst methodologically rigorous lacking relevance for or is little used by practitioners (Bennis and O'Toole, 2005, Piercy, 2002).

Starkey and Madan's (2001) paper explores the relevance argument, suggesting that academic research rigour underpinned the gap because -

- Lack of relevance in research output
- Research is seen by practitioners as reflexive not prescriptive of best practice
- Practitioners emphasise actionable advice
- Dissemination of research findings is unsatisfactory

Knight's positions the relevance debate as based on conflicting frames of reference that is instrumental versus intrinsic orientations to knowledge. He suggests the central arguments for addressing the gap are that business schools should be directed by instrumental ideals designed to instruct the next

generation of managers (Knights, 2008, Drucker, 2001, Bennis, 2005), or to improve the competencies of practitioners (Pfeffer and Fong, 2002, 2004). Instrumental goals he suggests would address the gap but adherence to traditional intrinsic ideals would maintain the status quo. In effect the arguments coalesce around two polarised frames that show business schools as too close to practice or too far away (Knights, 2008)

Exploring the rigour over relevance gap, a 2007 survey of Academy of Management members (Markides, 2007) revealed the existence of two types of gap. The 'lost in translation' gap which involves managerially relevant research that fails to reach practitioners and the 'lost before translation' gap where relevant research is not undertaken by researchers. Riebenstien (1971) supports this last point, arguing that the prevailing research paradigm in marketing which puts researchable problems before application issues reduces the likelihood of relevance emerging from the research. Wensley (2009) supported this argument by showing that only 4% of academic papers in the two foremost five star rated academic journals addressed the top 14 issues of concern to practitioners. There is evidence to suggest that faculty finds it hard to agree on the extent to which current research is relevant to practitioners (Bennis and O'Toole, 2005, Rousseau, 2009) and about the extent to which it should be relevant. Of course the debate is not entirely one way, that is framing the gap as solely an academic problem. For example Wensley (2002) proposes that practice pays too little attention to theory, consequently leaving practitioners to repeat earlier errors.

An influential argument by Bennis and O'Tool (2005) puts forward the view that the need for academic credibility within the academy based on measures of rigour has led to the adoption of an inappropriate model of academic excellence and to a decline in the signifi**c**ance of relevance amongst academics. This has led to a major concern amongst some researchers who believe that practitioners are important stakeholders (Anderson et al, 2001) and that business schools could lose their academic legitimacy in knowledge generation with serious implications for the sector as a whole (Crowther and Carter, 2002, Huff, 2000)

The issue has led to a duality of insecurity, on the one hand criticism over rigour in the absence of a scholarly approach and on the other hand criticism over relevance if a reductionist spectator stance is used (Grey, 2001, 2002, Starkey and Madan, 2001, Pfeffer and Fong, 2002, Mintzburg, 2004, Hulbert, 2004).

A key issue raised by the relevance gap is that it hinders the creation of new practice knowledge for application. Starkey and Madan (2001) quote from the Industry Academic link Report (1998) which detailed some of the problems preventing useful knowledge flowing between academics and practitioners. In particular the report highlighted that practitioners believe that research can be beneficial but see research as failing to focus on key issues. Supporting this view Tap (2004) showed that out of the published output of two five star rated marketing journals only 4% addresses the top ten issues concerning practitioners. Carley and Mathhisen (2010) refer to students, parents and funding bodies concerns of the real world relevance of business. Isolation from mainstream practice management discourse can leave management research irrelevant and hinder the development of appropriate curriculum leading to as Huff (2000) suggests business schools being relegated to the management of accreditation and maximising of teaching contact hours while relevant research becomes the preserve of companies or consultancies, or replacement by corporate universities Porras (2000)

Whilst Pearce (2012) argues citing Wensley (2009, p720) that much academic research is relevant for academic technical problems but fails to address the '*more critical'* contextual needs that complex business organisations face. For example (Bartunk, 2007, p1325) having examined the implications for practice sections of 38 articles from the Academy of Management Journal 2006, found that these were "*typically suggested in a decontextualized distant way*" and as Belli (2010) suggested were often contradictory and difficult to apply. In addition Pearce and Huang (op cit) have put forward evidence for a decline in actionable research in management based on an analysis of articles in Academy of Management Journal and Administrative Science Quarterly.

This different attitude to knowledge reinforced by an academic culture of publishing for rigour in academic journals and academic status whilst being remote from the world of practice all combine to perpetuate the gap (Wensley, 2009). Indeed Lesser et al (2000) argues that the effectiveness of a community of practice is a matter of how well that community connects with other communities both inside and outside the organisation. Expanding this argument and citing Leonard's (1995) idea of core rigidities we can see that communities of practice if isolated can become insular and out of touch. In such circumstances core competencies which fail to evolve dynamically with changing market and technological environments and which are subject to a rigidity enforced by the social, agentic and epistemic forces of a conservative academy may cease to be relevant to the wider external world (Eisenhardt and Martin, 2000). This can have serious consequences for the performance of market facing organisations but for academic institutions shielded from market forces the implication relates to the relevance of what they do in respect of the outside world but also as a lack of clarity about what the organisation stands for in communication interchanges at the institutions boundaries where they interface with outside organisation. Lesser et al (2000) sums up this position and elaborates on the nature of misunderstanding and miscommunications at such boundaries. Their argument is that within communities implicit assumptions are largely unquestioned (Becher's tribal argument). But when these background assumptions diverge, members of different communities lack a common frame of reference to interpret communications even when they use a common verbal language. In particular Lesser uses the example that when researchers and marketing people talk to each other they have problems stemming from different repertoires and practices but also from different identities that see the world in different ways. An argument that we have already seen as epistemic, social, or tribal, but is recast by Lesser (ibid) as a communication problem at organisation boundaries.

Ironically Ankers (2002) whose article looked at the applicability of business to business marketing teaching, reports that the integration of theory to practice was seen as the most important issue by UK academics. Yet academic

publishing enhances academic standing but application or consultancy fails to do so (Wensley, 2009, Starkey and Madan, 2001, Clinebell and Clinebell, 2008). There is an apparent dichotomy between what academics seem to want and what they produce. Part of the reason suggests Boddy (2005, 2005a, Ankers, 2004), is that academics are driven to publish in highly ranked academic journals for reasons of employability. This also works to cause another barrier to both transmission and production of material useful to practitioners– namely the issue of rigour. The cost of entry to publication in an academic journal is rigour (Carter 2008). The drive for rigour in academic research over relevance rewards academics for elegance in argument rather than practice results.

However not everyone agrees that relevance should be an overwhelming goal. For example, March (2000) criticised the "*misguided search for relevance rather than knowledge"* and received support for his view from Reed (2000) a practicing manager of substantial seniority, who argued that academic research improved the "*opportunity space for enterprises"*. And Hughes(2011) acknowledges that practitioners themselves do not make adequate use of academics. Equally orientating the business school toward an orientation which privileges relevance is a significant concern for some. For example Knights (2008) argues that academic independence leads to more interesting research and that such separation plays an important role in ethical scrutiny of business. But he also reflects on the need for an epistemology of theory-practice which embeds research in the space between representation and subjectivity

There are further counter arguments to the call for more relevance. Some of these point to research relevancy particularly in finance (DeAngelo et al., 2005) who criticises relevance as simply "*war stories"* a point which Pearce (op cit) acknowledges, although the need to communicate tacit knowledge via stories is well known (Goranzon et al., 2006). Whilst academics who believe in keeping a distance from practice are seen articulating this view less frequently in the literature (Hughes et al, 2011), it is right to acknowledge their views. For example Merritt (2004) argues that moves to relevance would

weaken the academic core of the business school. An argument that research should simply be left to academic freedom is persuasively made by Grey (2001) and others (Starkey and Tempest, 2008) point out that the academic profession does not exist to serve practice management. Whilst other academics express concern that following practitioner interests could lead to the pursuit of managerial fads (Abrahamson, (1991). Whilst (Weick, 2001) points out that new knowledge is often not recognised as valuable until some later time a view endorsed by Tiratsoo (2005). Indeed Miles makes the significant point that (Miles, 1985) many current financial practices were theories a few years ago and that US management theories underpinned many of the management techniques used so successfully by the Japanese. Greve (2012) articulates a similar argument citing Cyert and March who acknowledge that their findings were not directly actionable but were one of the most influential research items in organisational theory and became the foundation for subsequent work which had direct practice application. Addressing academic published research Bennis (2005) whilst broadly critical of lack of research relevance does acknowledge that some of the research published in A listed journals is *"excellent, imaginative and valuable".*

Indeed critics of greater integration between practitioners and academics have argued that innovative or radical relevant research could be inhibited by integration (Grey, 2001) and critical examination of management could be compromised by being too close to practice (Bain, 1994)

This plurality of views helps endorse the view that management research lacks is a fragmented domain, based on differing domain backgrounds and epistemic values (Tranfield and Starkey, 1998). Indeed this background leads some observers to be sceptical about the possibilities of closer relationships with practitioners (Cummings, 1990, Garland, 1999) or in some cases desirable (Gillespie, 1991, Earley, 1999), whilst others see a lack of paradigmatic consensus as an opportunity for innovative ideas.

2.1.4 Academic Journal Disassociation

Academic journals pose problems for practice. Based on a survey of marketing managers, McKenzie and Swords (2000) found that none of them regularly read an academic journal and that even awareness of academic journals, including those that targeted practitioners, was very low. Work by Baines and others (Baines et al, 2006, 2009, Crozier, 2004) found that practitioners failed to find academic findings helpful and that the majority found professional magazines and websites more useful and that critically, practitioners did not mention marketing textbooks as instruments of instruction. Even the means of establishing journal rankings ignore views on usefulness or relevance to practitioners argues Brennan (2008) citing Polansky et al (2006) or even their readership and instead are rated through citation rates and academic perceptions. Markides (2007) refers to several studies' that show that managers are unable to read scholarly journals. And Bennis (2005) cites the criticism of a CEO who describes academic publishing as a *"vast wasteland, from the point of view of business"*

Svensson and Wood (2006) suggest that the aim of journal ranking appears to be based upon distinguishing the top journals and *"embodying them with an aura of reverence and deference"* (P458, emphasis added). Indeed the ABS report (2012) suggests that academic publishing has become an end in itself as well as criticising journals lack of emphasis on actionable results. Svensson (ibid) goes go on to observe that technical or academic rigour is an important criterion for academic journal ranking and author prestige but as Wolf (2012) observes, practitioners do not see management journals as very appealing (p178) and that there is an inverse relationship between scientific orientation and perceived usefulness. But journals achieve higher status by publishing articles that are theoretical, scholarly or highly quantitative (Hawes and Keiller, 2002). They comment (p72):

> *"Since it is hard to read such articles without highly specialized and extensive training, we assume that these people who are involved with*

> *such journals are legitimate authority figures. We ascribe expert power to them and these journals are typically rated very high by members of the scholarly community"*

Communication of research findings is also seen as an issue. For example the AACSB (2008) argued that findings were not always being communicated effectively and that improved clarity of content and more effective transmission of practice impact would improve stakeholder understanding of research output. A finding supported by the later ABS (2012) report who similarly argued that academics neglected to develop skills in using a practitioner usable dialogue in disseminating results, a point also made by Hawes (2002). As well as identifying unsuitable dialogue as a key element in academics being estranged from the problems of practice the report also noted that the a weakness in academic-practitioner networks hampered the development of innovative ideas. A point which has support from Hughes (2008)

Highly abstract academic jargon is also a challenge together with language that draws few or no actionable conclusions or any applicable theory that practitioners don't already use together with a discourse style suitable for academic readers. A view endorsed McDonald who on assessing the contribution of practitioners, consultants and academics concluded that*:*

> *"The worst performance of all has come from the academic marketing community. Learned journals have relevance to academics….but the influence and prestige afforded them by the RAE is out of all proportion with the problems facing the global marketing community. It succeeds only in diverting the abundant genius of our academic community into a cul-de-sac. Furthermore the style has become increasingly dense, impenetrable and irrelevant"*
>
> (McDonald, 2003a)

A summary of views shows that that academic journals are inaccessible because the language is inaccessible and the writing style orientated toward

observation and generalisation rather than solutions (Hughes et al, 2008a, David and Hatchuel, 2007). And researchers have found that even practitioners with doctorates stopped reading academic journals on entering practice which further highlights the issue of the language academics use and the extent that this itself imposes a barrier. In terms of academic communication an academic writing style favouring third party passive voice consistent with a realist ontological perspective (Tapp, 2004, Brown and Duguid, 1998) is as Boland (2001) argues, disastrous in talking to practitioners. Hence the culture of academic publication itself gets in the way of knowledge transmission and creation

Brennan (2004) observes that different institutions can have differing views on knowledge creation and dissemination with some concentrating largely on dissemination to academic constituents with others emphasising a wider distribution. However his research does go on to identify academic reward systems which emphasise publication in peer reviewed journals as a substantive barrier to effective dissemination. In addition there was a scarcity of publications through which to publish practice orientated research.

It is possible that practitioners and researchers work to different time scales. For example Rynes (2001.) reported that a persistent finding is that the adoption of new knowledge is a slow process even under propitious circumstances. This may not be too surprising given that there is substantial argument that the two groups have different knowledge interests and needs. Chia puts forward a sophisticated argument supporting this notion but which also explains how knowledge expression in academic journals suits academics but not practitioners. Based on arguments by Bohm (1980) and Fenollosa (1969), Chia (1996) argues that the TP gap is implicit in Western scientific philosophical approaches to research. Traditional academic research theorizing he argues is epistemologically and ontologically orientated toward descriptions which are only partially representative of business reality. In particular Chai argues that as knowledge becomes more real world it takes on a nature in which its parts or theories become unable to replicate practice. Hence relationships ‘between’ things become more epistemologically

important but academic publishing emphasises the traditional epistemology 'of' things'. This argues Mitroff (1992) underpins university pedagogy and intellectual priorities but has also had the effect of discrediting academic research in the minds of practitioners (Linder and Smith, 1992) which in turn has led to criticisms that business schools have failed to equip students to cope with the complexities of business

Such research has the potential to address the issue of the lack impact on practice says Linder (ibid) but there are further barriers which act to inhibit such collaborations for example the different perspectives or priorities exhibited by two different groups (Bartunk and Louise, 1996,).

2.1.4.1 Critique of the textbook

An important element of the relevance argument comes from criticism of the role of the marketing textbook and in particular that marketing textbooks represent a flawed view of marketing practice (Ardley, 2006, 2008, Baker, 1999b, Hackley, 2003, Gummesson, 2002). Hemais (2001) remarks that there is concern about marketing discourse including textbooks and its application to the practical situation of companies and their products. A key role of the textbook is that of codifying knowledge and practice. But practitioner tacit or mode 2 language is difficult to codify into academic explicit or mode 2 language (Duguid, 2005, p112)

Gummesson's critical discourse on marketing textbooks reveals that his own interest in understanding the gap from a scholastic perspective arose from experiencing the disconnect between the reality of marketing practice and the depiction of marketing in textbooks (Gummesson, 2002).

> "*my interest in scholarly research arose from the experience of a huge gap between the marketing textbooks I have read and the reality I encountered as a marketing manager and management consultant"*

Whilst not amongst the mainstream arguments concerning the academic practitioner divide, some researchers, (Ardley, 2006, 2008, Hackley, 1998, 2003, Hemais, 2001, Kent, 1986, 1998, Simon, 1994, Tapp and Hughes, 2008) have addressed the issue of the academic textbook and the role it plays in preparing students for practice and in perpetuating the academic practitioner divide. Their arguments suggest that the academic textbook prepares students poorly for practice and that the typical textbooks linear, mode 1, profit and context free situation, fails to develop an appropriate mind set for successful practice. Dibb (2013) supports the lack of context argument and characterised the textbook's view of practice as "blinkered" and citing Svensson (2007) and Brownlie and Saren (1997) as providing inadequate sense making of the activities of practitioners. The argument is further supported by McColes (2004) suggestion that the success of marketing text based education contrasts with the indifference of practitioners.

There is argument (Ardley, 2006, 2008, Hackley, 2003,) that this disassociation is perpetuated by the academic practitioner divide itself and that isolation from practice creates a self-referential system in which academics write for each other and for a student body. Tacit recognition that practitioners do not use academic texts and a de facto acceptance of standard pedagogic and rhetorical approaches leaves textbooks relatively unchanging in content and approach (Hackley, 2003), a point agreed with by Simon (1994) who points out that managers are "*conveyors of understanding*" whose narrative or story is typical of mode 2 tacit knowledge and that the perspective of those who implement marketing practice, is rarely given. This leads to a situation, Simon argues, where it is difficult to determine whether or not marketing principles are actually employed to serve marketing practice or are simply maintained as a convenient structure for textbook knowledge.

Cohen however (2007) uses the role of the textbook as an opportunity to address the TP gap. Cohen's argument is not to turn the academic text into a practitioner text but to use the textbook as a means of demonstrating the value to practitioners of academic research. The author suggests that the textbook could be used as part of an evidence based management approach

that uses research embedded in the textbook but with findings translated for practice and students. Such approach Cohen argues would act to bridge the TP gap without compromising rigour, whilst also strengthening the value of rigorous research to the business community. But while the textbook reflects the brittle connection between academic and practitioners domains they do provide shape and knowledge about marketing practice and roles for students (Dibb and Wensley, 2013, Ford et al, 2010)

Other influences on the academic practitioner divide -

2.1.5 Two cultures argument – social forces of division

This section looks at the arguments outlining the view that knowledge is essentially a social construct and hence relativist. Such argument underpins the view that universities and practitioners belong to different cultures separated by epistemic, organisational and cultural differences. The significance of this argument can be seen through the Science Board Innovation Report – Making Industry-University Partnerships Work (2012), which argued (p7) that the cultural divide between the two domains ran deep and acted as a brake on universities engaging in effective collaboration with business

The underpinnings of this separation can be seen as far back as 1967 when Simon (1967) used the social relativism position to argue that left alone a faculty trained in an underlying discipline is absorbed by that discipline whilst a faculty trained in the profession will default to the culture of their profession. He received support from Becher (1989) who described the ways in which academics relate to the larger society outside the University. Becher argues that academics are inescapably constrained into the society that hosts them, based on a set of norms and values that conflict with the needs of government and entrepreneurship. These norms arise from academics own cultural and value systems derived from the institutions that academics have built in terms of their own needs, to create conditions best suited to the production of

academic knowledge in era's before government and academic pressure sought to re-defined them. Becher also reflects on Gibbons (1985) description of the tension brought about by the clash of cultures between cultures of the outside world and academic culture. This tension Gibbons argues was caused by knowledge stakeholders being unable to determine whether knowledge generated is being used properly or if generated differently would be more usable. This recognition of tension between cultures that see knowledge generation and use in different terms has early echoes of the two tribe's argument that has been discussed more recently. For example quoting the work of (Shrivastava and Mitroff, 1984, Thomas and Tymon, 1982), Rynes et al (2001) argue that academics and practitioners have fundamentally different value frameworks in terms of what constitutes valid informational content. This includes information as a basis for action, or the way it is arranged for 'sense making' both in narrative and context and how the need to demonstrate rigour through academic metaphor creates a symbolic construct suitable for academic validity and consumption. The nature of the different tasks done by practitioners and academics is hence fundamental to the gap. Norman (2010) argues that the gap between research and practice is fundamental through the differing skill sets required by each group. The problem his argument highlights is that the system of rewards in an academic environment skews academics towards this different set of skills and outcomes. Dossabhoy (2002) showed that academic research very closely mirrored the conceptual academic skills model. Alternatively the manager practitioner preferences or 'executive' model showed a significant preference for explanations and explicit recommendations which have a direct bearing on business performance.

Others have argued that practitioners and academics belong to two different belief systems that are largely self-contained and self-referential (Wolf and Rosenberg, 2012, p179) or view the world differently Aistrich et al (2006). Based on a pre-1982 review of literature Beyer and Trice (1982) found that the most prevalent finding was that academics and practitioners belonged to separate communities with "*differing values and ideologies*" that acted to hamper utilization

Quoting a 1963 Federation of British Industries report Starkey and Tirratsoo (2007) reproduce a table showing the differing concepts of knowledge held by business practitioners and academics

Table 1 Differences in views of knowledge between academics and practitioners

Concept	**In the University**	**In Industry**
Knowledge	An end in itself	Used for actions
Education	An end in itself	Viewed with some prejudice
Business as a profession	Some prejudice	As an end
Time factor	Of relative importance	Scheduled
Decision making	Only on full and tested information	On best information available
Work	Individualistic	In framework of organisation

What the table demonstrates is the divergent convictions of business educationalists and practitioners. Translated into action such contrasting views about the fundamental nature of acceptable knowledge will give rise to different views on what competencies students should be endowed with through the pedagogic process. But not only competencies. Fundamental differences in epistemic outlook will also result in pedagogies which contain a basic discourse potentially acceptable to both sides being taught within a narrative and cultural framework which fails to make sufficient reference to or develop the traits and attitudes that business employer's value. A narrow but interesting view on this was put forward by a practitioner quoted by Stringfellow et al (2006)

> *"we need to get people thinking about making money. They don't come with that natural outlook...it's just because they've never been exposed to having to do it, they have no reference points"*

Overall from study, graduates were seen as being naïve with respect to the idea that business and business actions were underpinned by the need for profit and other imperatives important to business, although the nature of these other 'imperatives' were not clarified. This is not an isolated argument. Indeed the CBI (2011) has reported concerns amongst employers about the lack of commercial awareness graduate exhibit.

For there to be a clear consistent focus in developing skills, knowledge and traits suitable for businesses of all sizes then a set of overarching values guiding pedagogic approach is necessary. But as Macfarlane argues, achieving this with a business schools made up of divergent communities consisting of a large proportion of carer academics whose disciplinary foundations and cultural traits come from traditional higher and even further education is problematic (Macfarlane, 1998).

The issue of attitude to knowledge and the way such attitudes are formed and mediated within social situations plays an important role in the development and maintenance of gaps between groups like practitioners and academics. This is one of the archetypal issues of sociology. That is the interplay between structural and agentic factors that constitute the social ontology and hence epistemic attitudes toward knowledge legitimacy. Academics bring their contexts into teaching. Structural issues like behaviour and attitudes are assumed from discipline practice. Whilst agency is the extent to which academics are able to act independently to the institution and discipline social structure they inhabit in terms of issues like narrative or identity – either personal or the depiction of business organisational character. Becher argues that the way that groups organise their professional lives is strongly influenced by the intellectual tasks that are inherent in their roles (Becher, 1989). He goes on to suggest that "academic cultures and disciplinary epistemology are inseparably intertwined" and instantiated socially. For example a study of how

academics categorise reality Bowker (1999) suggests that academics classify colleagues on the basis of what they believe constitutes proper academic work. Thus if a colleague is involved in non-academic work for example student development then she is not a proper academic. Trowler suggests that academic tribes inhabiting different disciplinary areas have different ways of thinking. This discipline influence socialises academics into the knowledge attitudes of their discipline and their attendant epistemic features (Trowler, 2008, Clarke, 1987). Trowler's argument above is supported by Becher (op cit) who suggests that the way knowledge is conceptualised is shaped by the interplay between discipline epistemology which can be defined as the actual form and focus of discipline knowledge, and the phenomenology of this knowledge which relates to the social situation of practice. Becher draws a distinction between the epistemological properties of discipline knowledge and the social aspects of knowledge communities suggesting that epistemology itself becomes a social construct in which discipline epistemology is mediated by social structural and agentic factors.

At the very least the different lives of academics and practitioners, their different goals and approaches endow them with the status of different disciplines. It follows therefore from those different attitudes to knowledge, that different epistemic stances emerge as inevitable. Even if they meet to converse or exchange information via research their different ontological and epistemic outlooks will invite a gap.

Part of the patchwork nature of approaches to teaching business management or its components like marketing is that the whole subject area is a comparative new comer to UK higher education. Both Becher and Macfarlane (op cit) found that the business school community itself was very diverse with academics being drawn form an "eclectic" mix of discipline backgrounds from social sciences to science and engineering. Even academics within the business range of disciplines drew their sense of identity not from the discipline of business but from their subject such as accountancy or marketing or HR. Perhaps due to the uncertain epistemological underpinning of business schools, or tensions between "*experiential and*

"academic" knowledge (Augier and March, 2007), writers point to the indeterminate identity that business schools have compared to schools of other professional disciplines like law or medicine (Thomas, 2009, Spring 2008, Ivory, 2006, Antunes, 2007). Adding to this mix is the schism between those with and lacking experience as practitioners. Thus the business school is as Macfarlane (op cit) says "*a hotchpotch of tribal interests*" where even teaching on a business program can create a significant conflict of loyalty between the values of the academic discipline the academic is socially part of, for example views on instrumental or intrinsic goals discussed later and the increasingly extrinsic needs of students wanting saleable competencies and organisations wanting students who are able to contribute to their goals quickly. This suggests that the whole discipline is at a stage of being described by Khun as pre-paradigmatic (Kuhn, 1977) or as failing to have a clear epistemic identity (O'Hear, 1998). Witrock (1985) suggested that the field was suffering from epistemic drift where knowledge structure becomes dysfunctional.

Such tensions, reflected in pedagogic views and attitudes about what constitutes knowledge will reflect a range of core beliefs. However despite practitioners complaints about lack of relevance, the intellectual dynamic and desire for cohesion within the academic discipline communities involved (Becher and Kogan, 1980, Macfarlane, 1995) will push allegiance away from practice to a theory orientated discipline and academic culture backed ethos. This argument is given support through the work of Brownlie et al (2008) who frames the problem as one of two cultures, of theory and of practice, each using construct relevance within their own occupational culture and then seeking to express it in terms of the other culture. In essence they acknowledge the separate cultures debate of Becher (op cit) and others outlined to the extent that they see the 'TP' gap as symptomatic of the tensions which reside in the discourse between different academic and practice cultures and the disciplinary epistemology that flows from the agency and structure surrounding them (Brownlie et al, 2007). Developing the argument Brennan (2004) addresses this issue of cultural separation resulting in different world views but due to the practice experience of some academics

and other academics collaborations with practice, is not supportive calling it an '*imagined' difference'*. But such differences can be reinforced by the incentives put in place by individual faculties and as discussed later a range of perverse incentives exist and act to maintain the gap

Notwithstanding this, business academics do show general agreement that their purpose is to prepare students for commercial carers but they are divided with respect to how this can be achieved. So how is the production of marketing knowledge influenced by different groups within academy? The next section examines how marketing knowledge emerges in the academy

2.1.6 Marketing Knowledge in Academy

This section reflects on the foundations of academic marketing knowledge and its role in the TP gap and examines the influence teaching, curriculum, educational aims and structural incentives have on the TP gap. The section concludes by subjecting the claims of research about estrangement from practice and the 'gap' to a critical reflection of the literature on academic involvement with business practice

2.1.6.1 Teaching and the Theory Practice Gap

That practice see's marketing theory as too abstract and lacking practical relevance is well established (Ankers and Brennan, 2002, Harrigan and Hulbert, 2011). One reason for this disjuncture from a teaching perspective is that as the Association of Business Schools (ABS, 2012) argues "*too few faculty members were trained in business orientated doctoral programmes"* with most being recruited from other specialized academic disciplines and as such bring with them the values of their academic traditions (ABS, 2006). A point referred to earlier in respect of the social forces of division.
Much is said about the research-practice gap, leaving assumptions about implications for teaching as implicit but the implications of the TP gap for teaching in HE are important. As Burke and Rau (2010) point out business

schools have the challenge of imparting an understanding of the value of research that will later favour research-practice links but also reflect that translating research into academic teaching is a means of disseminating research and showing its value to practice.

Teaching is frequently seen as less important compared to publishing. Academic career paths and development tend to favour academics who publish in journals rather than those who engage with teaching. Hence we see younger academics tending to develop their careers in research and publishing facing roles and leaving engagement with practice until much later once their careers are established. Such academics will therefore tend to teach within a paradigm of theory and emphasise skills congruent to solving issues of theory rather than this skills in demand by practitioners (Bennis and O'Toole, 2005). Teaching itself also has its critics, for example, Bennis argues (ibid) that teaching skill is frequently rated secondary to publishing record in terms of respect and reward by faculty management. The ABS Task Force report (2012) puts the view that business schools rarely provide either the right mix of skills to solve applied problems and that they are weak in training managers to solve applied problems. The cause of this claimed the authors were academics preoccupation with their own research interests rather than the needs of practice a point supported by Chia (1996).
The extent to which marketing education adequately prepares students for employment has been widely discussed (Taylor, 2003, Brennan and Ankers, 2004, Gray, 2007, Hyman, 2005, Brennan, 2013) as has the debate on what should be included in the university level curriculum (Cunningham, 1995, 1999b, Schibrowsky et al, 2002, Gibson-Sweet et al, 2010).

Whilst various solutions to closing the TP gap have been proposed, the role of teaching as a means of addressing the gap has received scant attention (Cohen, 2007) leading to arguments for more integration between teaching and research to highlight the value of research to students in informing management education. One outcome would be the creation of managers who understand the value of evidence based management decisions to encourage academic practice collaborations. Cohen (ibid) and Rynes (2007)

have argued that researchers should take responsibility for educating practitioners into the value of research, notwithstanding issues of academic incentives. Teaching has a further role in bridging the TP gap by bringing academics into contact with practice argued Walsh (2010) who discussed how teaching itself was a significant means by which research influenced practice.

In terms of values shaping teaching practice, the needs of universities to have an identity separate from other knowledge creators or providers such as consultancies or training organisations also influences the way in which faculty conducts itself. The manifestation of scholarly values which enables faculty to apply research and teaching to business from a spectator perspective also acts to reinforce critical examination of business actions (Ivory et al, 2006) through maintaining a distance between the world of business and that of the academy

2.1.6.2 Educational aims

The resolution to criticisms of a teaching practice gap may begin with an understanding of the aims of education itself and the philosophy from which those aims flow. At any level of teaching but especially in HE teaching content and style will be informed by the educational philosophy of individuals and of the institution.

As Clarke (2006) put it, a successful educational process is guided by the conscious decision of the educator consistent with their educational philosophy. But here we see a fundamental component of the academic practitioner gap. Educators and practitioners are likely to have different philosophies leading to different goals and lacking an overarching guiding philosophy this ultimately leads to programmes lacking in coherence (Peters 1970). Broadly the argument is about educational goals. Should university education be narrowly instrumental in meeting the goals of employers or more broadly intrinsic in developing academic skills via a more liberal teaching agenda (Stringfellow et al, 2006)? Generally speaking practice favours an instrumental perspective emphasising skills enabling students to enter work

ready trained and that it is the role of the business school to achieve this (Clarke, 2006, Bridges, 2005). Academics are more inclined to take an intrinsic view of education; that it is concerned with personal development or intellect not just work (Peters, 1970, Maurice, 1968).

In respect of marketing education or teaching, the intrinsic and instrumental approaches have led to 'tension' between proponents of each, which has contributed to the ongoing debate about the TP gap amongst researchers and practitioners (Ardley, 2006, Southgate, 2006, Gibbs, 2007). The basic question falling out of the debate is *"should marketing courses be pragmatic geared toward practice tools and techniques or academic and intellectual skills aimed at creating scholars who happen to be marketers*" (Clarke et al., 2006). To some extent views on which approach should obtain reflects the domain of the individual with practitioners seeing an instrumental approach as appropriate but academics favouring the intrinsic. The two are not necessarily at opposite ends of the spectrum. Practice is clearly enhanced by the ability to apply critical thinking (Clarke et al, 2006). And as Peters (1970, p. 32) puts it

> *"A man with a "trained mind" is one who can tackle particular problems that are put to him in a rigorous and competent manner"*

Hence as Clarke et al notes the issue now becomes one of balance and aims (Clarke et al, 2006). This view is reflected by Ottewill (2002) who pointed to the need to balance theory with practice and to avoid a "purely academic" approach. Indeed Johnstone (1999) argues "*Dewey's aim to remove the distinction between practice and academe is still as valid today as it was in 1916"*. Intrinsic education of marketers would as Clarke (op cit) points out citing Coldstream (1991) emphasize criticism and academic skill over pragmatic content. And as Bailey points out if the aim is intellectual development then an intrinsic approach is necessary (Bailey, 1992). Practitioners and Dewey are unlikely to favour such an approach. In the final analysis, the balance between academic knowledge and practice skills embedded in curricula is going to be strongly influenced by Institutional goals, values, educational policy and culture (Brennan, 2005) or epistemology of the

academics involved along a divide that is intrinsic to instrumental in teaching and curricula. Thus instrumental aims may be hard to implement by academics who favour an different epistemic outlook from practice.

2.1.6.3 Curricula

And while business schools may enjoy commercial success as David points out the disassociation between curricula and industry practice is evident especially when compared with other professional schools like medicine, engineering, nursing and law (David et al, 2011). Assessing course content the authors found curricula was not informed by professional certification and found academics had little awareness of the nature of such job related certification in their area. The authors concluded that business school should become more practitioner orientated with curricula designed to provide more opportunities for professional certification. In particular they suggest that pedagogic design using guest speakers, seminars and workshops should address the gap between business and academic communities. Admittedly this was a US study and there is evidence to suggest that US business schools in particular have adopted a more hard core positivist intrinsic approach to business but similar arguments have been made in the UK by the Association of Business Schools (2006, p8).

Debate over content itself is a reflection of the ongoing debate about the theory practice gap and reflects the different views between academic, researchers and practitioner's stakeholders. (Ardley, 2006, Gibbs, 2007, Bennis and O'Toole, 2005). In 1938 Dewey wrote that schools should concentrate on judgement rather than knowledge (Dewey, 1938a). In doing so he anticipated a more contemporary instrumental range of educational goals.

Informing Curricula

The difficulty with the debate over intrinsic versus instrumentalism is substantively about making choices between these rival theories (Clarke et al, 2006, Mendus, 1992)

Mitzburg (2004) and Livinsgstone (1999) make the point that teaching management as a science of analysis is to mistake the nature of management. In particular he makes the point that in the absence of experience the craft or practice elements of business cannot be properly understood or reflected, suggesting that over emphasis on analytic skills leads to underdevelopment of practice or action skills. In particular he argues that management solutions are individual and emergent and the same solution will not work for different managers. Both Mintzburg and Livingstone are emphasising personal judgment, experience and leadership and neither see reductionist intrinsic business curricula as sufficiently emphasising these characteristics. Such arguments suggest that students exposed to analysis over action or theory over practice, are less prepared for the art of managing. As Hill argues (1992) in the absence of experience students cannot understand practice. It is here that separation of academics from practice has implications on the preparation of students for practice as well as in the development of curriculum. Similarly Oblinger and Verville (1998) argue that students are misled by the concentration on inert analytical intelligence and bring the concept of practical intelligence forward as a cognitive style that would be better suited to the teaching of management. The problem for business schools asserts Oblinger (ibid) is that they concentrate mainly on analysis. Business schools may be developing an unbalanced skill set whilst emphasising a skill which may be most suitable for an academic career but not optimum for an entry level business one.

Birch suggest that the academy is concerned with knowledge for its own sake and (Birch, 1990) arguing that the idea of a closed academy insular from the real world has both a symbolic and real nature. And as Macfarlane argues (Macfarlane, 1995) practice domains are seen as threats to the academy's independence. Such a culture acts to assimilate new entrants even if they have practice backgrounds and socialise them into the culture of academy

with value orientations underpinned by a traditional research ethos which prioritises research for publication in academic journals (Babin, 1989), what Becher and Kogan (1980) term – the intellectualising dynamic. This argument makes a comment by Mendus (op cit) seem like a crucial point.

> *"My suggestion is that our most crucial choices are not choices about theories at all, but about ourselves. And these choices depend on the conflict of traditions"*

This dynamic informs curricula through the aims the educator sees as legitimate (Clarke, 2006) and the weak epistemic nature of marketing theory allows academics to develop curricula to their own agendas (Curzon, 1990).

The debate on curricula is fundamental to the question of proper approach to marketing education in universities and there is discussion about what 'proper approach' means (Cunningham, 1995, 1999, Schibrowsky, 2002, Gibson-Sweet et al, 2010). Schakowsky (ibid) described the intrinsic versus instrumental philosophical argument in terms of three alternative types of school. These were vocational, providing entry level skills, liberal which teaches about marketing (so far classically instrumental and intrinsic) but he added the concept of the professional school, with a curriculum aimed at synthesising and analysing information in complex situations to make informed judgements, which Gibson-Sweet (ibid) suggests coincides with Mintzburg and Livingston's concept of business education.

However the extent that Schibowsky's suggestion is feasible also depends on another issue, namely the student. The orientation of students towards knowledge also acts as constraint and influencer on marketing educational strategy. As Ottewill points out students can be framed as having extrinsic or intrinsic perspectives on their education and this has implications for the type of knowledge they prefer (Ottewill, 2003). For example as he explains students evidencing a preference for instrumental approaches to their learning are increasing in numbers, although he acknowledges that evidence here is empiric. In this context instrumental learning is learning *'"not for its own sake*

but for some other external or extrinsic goal" (Ottewill and Macfarlane, 2003), predisposing students towards a curricula informed by a professional school approach. Such learning preferences raise issues of pedagogy and curricula. For example some educators see instrumental learning as closely related to shallow surface learning where students reduce critical analysis to a series of facts for subsequent regurgitation (Macfarlane and Ottewill, 2001) or as Howorth (2001) argues *'instrumental learning' is misnamed as it does not involve learning at all*". Instrumental learning argues Ottewill (ibid) is a threat to the integrity of HE through its emphasis on teaching to the test, knowledge over understanding and its legitimisation of superficial fact based knowledge over deeper understanding of principle.

Indeed the instrumental/extrinsic learning and teaching versus the intrinsic is interwoven with the vocational and liberal models of education, an argument with a substantive epistemic base (Symes, 2000) and dating back to Dewey. This tension is part of the ongoing academic practitioner divide leading Clarke (2006) to ask -

"Should marketers be trained or educated?"

In essence Clarke's question is instrumental versus intrinsic, liberal or vocational, relevant or pragmatic which are key educational aims informing the design of the marketing curriculum. Bennis (2005) criticism of the academic (or intrinsic) approach that most business school adopt is that it is not an appropriate model. This argument amounts to the fundamental clash of beliefs on educational aims. Should curricula be informed by intrinsic or instrumental aims?

Opinions about instrumental learning and teaching are diverse with some in Academy see instrumental learning as undesirable others regard it as inevitable and desirable and as Ottewill (op cit) points out the issue is contentious. Academics supporting instrumentality argue that it is a pragmatic logical response to the environments students are in, especially the issues of finance and pressure to see education itself as an instrumental commodity

furthering the needs of the economy and as vocational providing employers with trained students and students with a practice ready skill base. Equally market forces from consumers (students and employers) are becoming substantial forces influencing the aims of business school curricula. If students believe that employers want trained people rather than educated ones and student choice determines institutes income then students via the market are driving curricula design toward instrumentality (Clarke et al, 2006)

The drive toward market solutions as a means of directing educational aims is discussed by Bridges (2003,1992) who described the curriculum objectives for instrumental education as –

- to enhance personal effectiveness and achievement at work
- develop and apply skills including decision making, problem solving, task management and risk taking.

Market forces are an effective way of enabling consumers to make choices and enabling student extrinsic goals to be expressed. Or as Gray (2006) says, "*it is at this level that educationalists must address the debate*". Gray was arguing in favour of intrinsic education and the development of critical thinking in enabling students to embark on a learning journey. But he makes the important point that content is just a means to an end. What is taught is largely irrelevant as long as it achieves some clear educational goal.

In terms of values shaping teaching practice, the needs of universities to have an identity separate from other knowledge creators or providers also influences the way in which faculty conducts itself and underpins curricula designed to avoid excessive vocationalism or the commodification of professional knowledge (Raelin, 2007, Trank and Rynes, 2003). The manifestation of scholarly values which enables faculty to apply research and teaching to business from a spectator perspective also acts to reinforce distance and legitimise critical examination of business actions (Ivory et al, 2006). But such a position leaves business schools open to the charge that they have lost touch with practice by being too academic. But if business

teaching becomes too instrumental to the point of amounting to little more than training, then the usefulness and differentiation of the business faculty from other knowledge providers becomes compromised. For the marketing curriculum the issue again boils down to aims and whether these should be instrumental or intrinsic or the balance between them (Clarke et al, 2006). Ultimately the balance achieved will depend on the structural and agentic influences in the faculty as well as views on maintaining a differentiating identity and separate purpose (Hawawini, 5005) from other knowledge providers.

Structural and argentic influences can provide both motivations and disincentives for academics to get involved with practice and the next section looks at some of the barriers to academics involvement with practice

2.1.6.4 Perverse Incentives

Vermullens (2005) call citing arguments for a synthesis of rigour and relevance is he acknowledges unlikely to work in an academic system that does not value relevance. Thus the need to address the incentives that shape the behaviour of academics towards valuing relevance and contribution to practice becomes significant.

Individual academics may be interested in developing practice links but as Hughes (2008) proposes individual interests can be discouraged through institutional policy. This raises the issue of perverse incentives in HE where status and reward are often based on publication in rated journals over practice application or consultancy (ibid). Motivations to publish in highly ranked journals are strong and such journals, often American, direct the research agenda and as such, prioritise rigour (Tapp, 2003, Bennis and O'Toole, 2005). Similarly the RAE's strong influence on institutional priorities encourages academic publication, for financial and status reasons, to the exclusion of practice-orientated work (Hughes et al, 2008a, 2011) or what Reed (2009) calls the tyranny of rankings which leads deans to focus on image management at the expense of addressing the TP gap (Antunes and

Thomas, 2007). This focus itself argues Baker (2001) acts to divert resources to research and away from practice, whilst journals themselves often only pay lip service to implications for practice (Baron et al, 2011). This drive to publish lead's to academics developing different interests to practitioners (ABS, 2012) and does little to encourage knowledge dissemination outside the academy Other shifts have made it difficult for academics to maintain contact with practice and have led to tensions between teaching, research and practice experience. For example the intensification of academic workloads, increased student numbers, business schools role as cash cow for an institution have led to academics finding it difficult to balance competing demands (Bessant et al, 2003, Starkey and Tiratsoo, 2007). In addition academics from pre 1992 universities find promotion difficult in the absence of a doctorate and publication record but not interestingly practice experience. In the post 1992 institutions high teaching loads mitigate against research and the need to generate teaching revenue makes maintaining contact with practice difficult (Bessant et al, 2003). Whilst the ABS (2006) identify a shortage of funding to develop research and scholarship which is engaged with practice as well as a lack of space afforded to academics to invest in developing practice links. This finding gives some support to a disappointing view on academic support for practitioner knowledge exchange put forward by Knights (2010). Here the author reports that the academy is becoming more "*antithetica*l" toward academic-practitioner research which he argues supports Knorr-Certina's (1999) argument that epistemic cultures are a barrier to change in terms of acknowledging the value of knowledge beyond academic norms. Indeed Knights puts forward Abbot's (2001) view that "*epistemic stickiness*" anchored epistemic positions between academic and practitioners making collaborations within exchanges difficult. In addition work experience in the absence of a PhD may count for little in terms of recruitment to academic positions (Baron et al, 2011) which acts as a disincentive for practitioners to seek academic careers.

2.1.6.5 Academic Contributions to Practice

But are academics as estranged from practice as the literature so far cited suggests? The next section examines the issue.

The way the gap problem is framed is important. Framed as a social process knowledge production requires involvement between the two groups (Van de Ven and Johnson, 2006) or if framed as concerning knowledge possession then the gap is underpinned by poor knowledge transfer (Tranfield et al, 2003) an issue looked at later. That the literature characterises engagement between practitioners and academics as poor suggests the formulation of new practice knowledge is inhibited and as Rynes (2007) argues academics should seek engagement with practice despite tensions or problems as interaction and dialogue are fundamental to knowledge creation.

So whilst the literature is generally critical of academic practitioner engagement there is evidence of initiatives to address this which suggest the situation may not be as poor as some writers suggest.

Whilst much of the academic literature is critical of research relevance, combined academic-practitioner research does of course occur. Bartunk (2010) points out that practitioner's do publish in practitioner journals and cites examples (p1324). The Handbook of Collaborative Management Research documents examples of collaborations mainly in the area of organisational research or action research. Such collaborative research is however cited as rare (Amabile et al, 2001) accounting for only 4% of articles published in the Academy of Management Journal and less than 1% in Administration Science Quarterly between Jan 1994 and June 1999. And solid empirical data about the extent of academic involvement in practice research is rare with the majority of claims about its extent made on the basis of anecdotal evidence and personal predisposition (Rynes, 2001).

However The Association of Business Schools report (2012) does list a number of successful collaborations between practice and business faculty

and also reports that many business school academics practice consultancy and emphasised the importance of this localised problem solving role and warned against its substitution by management education roles. The AACSB (ibid) also argued that academics involved in practice had a significant impact on developing practice orientations in curricula and teaching as well as influencing business practice itself. Indeed the report advances Merrit and March's (2004) argument that the development of knowledge itself strengthens the discipline as well as supporting the legitimacy of the intellectual base of the discipline. The report points to the increasing importance of transparency and stakeholder returns from knowledge produced as a motivation on faculty to make the outputs of research clearer to all stakeholders.

Not all research agrees with Kaiser (2009), Luhman (2005) or Wolf's (2012) pessimism regarding the closure of the rigour – relevance gap. Hodgkinson and Rousseau (2009) make a robust argument denying Kieser's (2009) argument that the TP gap was fundamentally unbridgeable and in doing indicate that research relevant to practice is occurring in particular in fields like HRM and also give a number of examples of academic practitioner collaboration in research (p541).

Part of the debate on relevance is driven by recognition that the Academy has a role to play in developing new knowledge which has impact in the world of practice. A wider range of stakeholders have also become more influential in shaping the research agenda including business and government influences (AACSB 2012, Business, 2006). These changing economic and political conditions have led to greater involvement of practitioners in academic research and with the Academy. But the picture in respect of academic practitioner engagement is not consistent across institutions worldwide. With Reed for example (2009) showing that European institutions have avoided the analytic and research led approach of their US counterparts and instead adopted a greater emphasis on practice, collaborative projects, problem approach to teaching management (Antunes and Thomas, 2007). Developing this argument in a Review of Business-University Collaboration Wilson (2012)

reported that "*The UK has made huge progress in business–university collaboration*" and reported that a significant amount of evidence existed of successful academic-business collaborations and that such collaborations were a dynamic area of growth. The report, whilst somewhat opaque, suggested that academics and practitioners may have substantial understanding of their separate domains but that there was a pressing need for improved understanding of both domains to emerge amongst each group to sustain the progress made. Indeed the Wilson review paints a landscape of dynamic and successful practice-university collaboration.

Whilst remoteness from practice is cited by many, evidence of academic involvement in business challenges these arguments. Hodgkinson (2009) points to anecdotal evidence of joint academic practitioner research. And whilst observing that many academics and practitioners exist in separate worlds rarely even acknowledging each other's existence, Tapp (2003) suggests that academics in marketing are coming under pressure to get involved with practice. Brennan (2004) points to views of B2B marketing academics that academic research had contributed to greater use of relationship marketing tools amongst practitioners. And in the same paper pointed to academics frequently wearing two hats, that of conducting consultancy and producing academic research as well as many having had previous careers in practice, an argument supported by the EKB/AIM Report (Ivory et al, 2006) who reported that about a quarter of new UK business school faculty are recruited directly from industry positions. The report also suggested that UK business schools are more diverse in approach to knowledge generation than the sectors critics have argued, outlining that they have range of different profiles suggesting that those institutions most active in pure academic research are also amongst the most successful providers of practice orientated education to practicing managers. Describing the association between academic research and lack of relevance as unhelpful the report outlined a range of research orientations from those focusing on top rated journals to others focusing more on providing academic or research support to local organisation or industries. Whilst Hughes (2008) found a number of examples of formal and informal connections between academics

and the business community, including courses and programmes as well as networks set up to facilitate engagement and also via professional bodies and consultancy. In particular Hughes (ibid) describes conferences set up as forums for the exchange of knowledge between the two groups as well as knowledge networks. These networks describe relationships developed by academics who act as knowledge brokers between practice and academic members of the network. Examples of such networks are provided by Knights (2010) but they are scarce and can break up easily (Knights ibid, Mohrman 2001). Whilst few indications of individual engagement or its extent appear in the literature, Hughes does put forward that "*there are many academics engaging with practice"* (Hughes, 2011, P50) but no numbers are provided.

There are other initiatives. For example the Association of Marketing Theory and Practice (http://www.amtp.org/) and the Marketing Science Institute both aim to bring academics and practitioners together. The Marketing Science Institutes practice/academic partnership forum provides examples of knowledge networks. There is also a dedicated Linked in group – Bridging the Marketing Academic/Practitioner Gap in Marketing (http://www.linkedin.com/groups/Bridging-marketing-Academic-Practitioner-gap-3998955). Other organisations aiming to facilitate academic practitioner collaboration include the Technology Strategy Boards and KTP programs. As Hodgkinson (2009, p537) observes institutional influences are encouraging valuable relations between theory and practice citing the Advanced Institute of Management (AIM) as an example of how Academy and practice can cooperate in management research. Other groups that bring the two groups together include the centre for Advanced International Marketing Knowledge (AIMARK) and the Association for University Business and Academic Research (AUBER) whilst other initiatives are developing internationally (Hughes 2011).

In addition there have been a number of academic conferences addressing the theme of the theory practice gap. For example the Academy of Marketing Conference 2013, 2007, 2000, 1995 and 1982 all had the issue as their theme as did the BAM conference 2012. The Academy of Marketing's special

interest groups also aim to foster dialogue with practice with the aim of developing knowledge amongst both groups. The Academy lists over 20 such groups, including B2B, services and brand marketing. Numerous special sections in academic journals have appeared. For example the AMA Journal of Marketing Research (2006) special section on collaboration listed numerous examples of research collaborations. In the UK Institutes like the CIM, IDM, the MRS and others act as facilitators for practitioner-academic contact

The somewhat contradictory picture painted of successful collaborations set against the continued argument that practitioners fail to see fundamental research as useful and that business schools are still seen as remote and unengaged, possess question for resolution. There are hints that the practice elements of university collaborations may be corralled into specialist outside facing teams and the experience and tacit knowledge that arise from them may not be widely disseminated throughout business faculty. Indeed, research on collaborations does not directly address the criticisms of research relevance and in places acknowledges it as well as calling for and recommending ways to address the relevance gap.

Whist the literature maintaining the tangibility and detrimental nature of the TP gap is extensive, countervailing arguments are less numerous in the literature. But Hodgkinson (2009) points to a different picture and points to institutional forces acting to close the gap as well as suggesting that the real picture is quite different to that common in the literature. Suggesting that there is a zeitgeist (p541) advancing science-informed management Hodgkinson (ibid) points to the growth and vigour of associations with a mission to bridge the scientist-practitioner divide.

The next section looks at the influences that have shaped marketing theory in Academy

2.1.6.6 Marketing Theory in Academy

HE policy and emphasis has in recent years moved toward an emphasis on performative knowledge. That is knowledge of how, rather than the traditional academy view of knowledge as propositional or knowledge of what. Policy may have moved but as Becher (1980, 1994) argues, the academy because of its roots in reductionist mode 1 thinking and striving for legitimacy first and foremost from an academic discipline base, is reluctant to follow policy. Leading to an almost schizophrenic set of competing values and beliefs about knowledge. This may be one reason why marketing theory in its current form is not valued by industry Burton (2005), Wierenga (2002) and Grey (2001) observe that marketing qualifications are not a prerequisite for senior marketing roles.

Although at a policy level there is general agreement that business school education should meet employer's needs (Aistrich et al, 2006), Macfarlane (2001) found little evidence that academics in HE tailored their curriculum to meet the needs of employers but instead emphasised a pedagogic approach based on institutional values which emphasise critical thinking, which from arguments made above emphasises the needs of the academy and its epistemic orientations. Indeed as Anderson (1994) from Brown (1996, p252) points out

> *"the dogged pursuit of the mantle of sciencehood has severely damaged marketing's credibility at a time when international competitiveness demands acumen and leadership – not the continuous railings of pseudo scientists"*

The arguments about marketing's 'mid life' crisis really emerge from marketing scholarships failure, despite claims to imminent success, to achieve much of practical implementable value in the post war period (Brown, 1996, Brady, 1993, McDonald, 1994, 2003, Lynch, 1994)

The augment began in the UK in 1945 with Converse' (1945) influential paper. Although Converse did not advocate either art or science as alternative paradigms, he did argue that marketing was a nascent science. Others variously criticised the descriptive nature of marketing scholarship at that time, or the lack of systematic research method underpinning marketing academic research, (Brown, 1948, Alderson, 1948), with Brown in particular arguing that marketing had to become more analytical and 'scientific' in order to become a profession.

Influential commentators like Phillip Kotler maintained that marketing was on the way to becoming a science (Brown, 1996) and marketing academics were encouraged to move toward a scientific paradigm to develop the subjects' scientific status but also to achieve rigour and legitimacy (Bourassa, 2007, Lutz, 1979). The view of marketing as a science perhaps reached its zenith with Hunts paper on the Nature and Scope of Marketing (Hunt, 1976). Hereafter marketing status as a science in the making was little challenged. A lack of real progress toward an underpinning set of theoretical axioms was put down to its youth. However the cost of this assumption of the status and character of a science was an increasing separation from the 'mundane' practices of practitioners (Clegg, 2003). Through the 70's and into the eighties the modernist epistemology that grew with the science perspective was supported by a societal vision of progress, reason, modernity and embraced the view that the identification of fundamental laws would lead to the analysis, planning and control of social phenomena (Smart, 1992). The science/modernist epistemology was so entrenched amongst academics that the general view was *"to be against science is to be against motherhood*" (Buzzell, 1963). The didactic nature of this paradigm had the effect of abandoning the pretence that academic marketing was an applied discipline (Egan, 2009). And given the disdain that the 'pure science' culture had for practical application (Rust, 2006) this was a widely held view in academy. This modernist epistemic view began to show signs of instability as marketers in general began to show concern over this dislocation and began to call for a closer relationship, even as the gap between the two sides widened (Egan, 2009)

The postmodern epistemology in marketing began with Anderson (1983a) who argued for the fallibility of an epistemology which relied upon the measurement of social reality through positivist, universal generalisations or laws. Anderson's position was that the modernist positivist approach or 'science' was inadequate to describe a socially constructed world. He posited instead a 'relativist' position he dubbed – science^2 (Anderson, 1983b, 1988, 1989). Although this paradigm ran counter to the accepted understanding of marketing Andersons proposition was aligned with Kuhn's (1970) seminal work on the social nature of science and offered marketers a way of closing the gap with practitioners by providing a role for application skill and achievement in markets not just explanation.

Postmodernism therefore highlights the fallibility of the modernist approach and provided for a Kuhnian paradigm shift which had the effect of further muddying the epistemic waters swirling around a search for a suitable epistemology for marketing. As Brown (1996, p249) points out, marketing today is "*less epistemologically and methodologically monolithic*" than when modernism prevailed. But the majority of marketing academics still broadly work within the modernist tradition (Egan, 2009), although academic research output at the postmodern end of the spectrum is commonplace (Brown 1996) But postmodernism is itself no panacea for rapprochement with practice. And postmodernism's critical stance makes clear that academics and practitioners have gone their separate ways (Brinberg, 1986), with some postmodernist thinkers seeing separation as beneficial to the academy.

Postmodernism encourages a fallibilistic view but a heterogeneous epistemic position which still fails to close the theory practice gap as in more mature professions whose epistemologies see academic theory/research and practice as conjoined. Which suggests that without a theory of marketing encompassing practice, postmodernist marketing theory and epistemology will not of itself close the theory practice gap and generate an approach to marketing education which emphasises epistemic work - that is the capability of an epistemology to add value to theory through practice relevance

2.1.7 Discussion

The gap is a complex space. Its existence is attributable to a number of intertwined issues, the most significant of which have already been examined. Because the issue is multifaceted then arguments over its closure will share that attribute. Apart from those like Kieser (2009) who argue that the gap is unbridgeable because knowledge from scholarship is fundamentally different from knowledge from practice or others like Grey (2001) who believe that the gap should remain in order to protect academic freedom, three main arguments are advanced. Reed (2009) and Van de Ven, (2006) frame these as problems of knowledge production and transfer or as problem of conflicting philosophical views. This last strand is itself variously framed by researchers as differences in cultural (Amabile et al, 2001,), tribal differences (Becher 1989,Trowler, 2008) different values Rynes (2001), as a problem arising from epistemological differences (Tranfield and Starkey, 1998), epistemic immaturity (Fendt et al, 2007,) or weak epistemic identity (O'Hear, 1998, Pfeffer and Fong (,2004) whilst Clarke (1987) expressed the disjuncture as a matter of structure and agency. Simon (1976) suggested that all professional disciplines have this “common problem” of bridging the social system that produces theoretical knowledge and the social systems that practices and that as separate tribes left to themselves they will separate as do oil and water.

Looking at the gap from a structure and agency perspective we can see the main structural issues contributing to the gap also influence or support agentic issues as the two sides act as mutual reinforcements. There are a number of ‘perverse incentives’ which act to discourage academics from closer links to practice. For example the RAE and academic publishing impacts rankings and both impact academic respectability. Academic journals are little read by practitioners but the system contributes to reward academic status seeking through rewarding rigour over relevance and also acts to discourage the recognition of other journals which prioritise practice relevance over rigour, even discipline leading practice journals (Baron et al, 2011). These influences and the academic career life cycle can act to socialise academics into

academic values and self-referential systems. Increasingly issues of high teaching loads and an increase in the intensity of academic workloads, rigid academic timetable and semesters inhibit contact with practice whilst academic career progression often fails to value such contacts (Jaworski, 2011).

Agentic influences such as epistemic essentialism and the fragmented nature of business school academic backgrounds bring together paradigmatic traditions from rival fields including, economics, anthropology, or sociology. The effect of this influence though could be profound in underpinning the separation between theory and practice. The dominant critical position of social science and of intellectuals themselves is that of counter culture, hostile to economic liberalism or capitalism and seeing management education as the 'lingual franca' of capitalism (Van den Haag, 2001, Hatchuel, 2009). Such values implicitly reject collaboration or partnership with business, leading to what van den Haag describes as a lack of experience of and apprehension of the practical affairs of business (ibid, p60). But current economic and social pressures are acting to emphasise the need for relevance through employability and competition for jobs making business school positions the subject of more scrutiny transparency and emphasising the need for the gap to be addressed

In their analysis of the influence of social change on universities Singh and Little (2011) reflect on how social change has influenced educational policy in universities. They highlight the tensions which have been considered so far in the context of higher educational institutes (HEI's) and note that the role of HEI's as knowledge producers and transmitters is being challenged. But the HEI is still seen as a significant contributor to economic development (Hughes et al, 2008b). However for this role to be fulfilled stakeholders like government, business and students themselves are questioning the traditional aims of HE teaching. And here we see the debate about teaching as instrumental or intrinsic emerging but also influenced by an increasing extrinsic focus by students themselves which reinforces the move toward

instrumentalist curricula and pedagogy and conflict with traditional epistemologies.

The influence of stakeholder groups from government, business and students also exert contradictory influences on teaching and curricula and there is market pressure on faculty to differentiate itself from other knowledge providers or trainers. The increasing emphasis on employability and students predisposition toward extrinsic learning will have a significant influence on shaping the nature of management education. And in turn lead to conflict between paradigmatic or epistemic values within faculty

Whilst the literature describing and analysing the TP gap is extensive and mostly critical of the Academy, academic contributions to practice are occurring. The literature on such collaborations or involvement of academics with practice is much less extensive and more likely to appear as a report than in an academic journal. Researchers (Hodgkinson, 2009, Tapp, 2003, Brennan 2004) describe examples of academic work with practice. And recruitment from practice addresses some of the issue of estrangement but also suggests currency of academic practice relationships (Ivory 2006). Other research discusses he contribution of knowledge exchange networks, conferences and forums that bring the two sides together.

The following section examines the role of epistemology, modernist, postmodern and within communities of practice in shaping academic thinking

In particular I would contend from much of the above that the hybrid epistemological and social nature of business schools is a key issue. So whilst each side uses similar language their use is within differing epistemologies. Indeed Boyles (2006) sees relevance as an issue related to the neglect of epistemology as a research topic in education through a *"myopic focus on traditional accounts of pure knowledge".* Boyles used the idea of Dewey's epistemology in which is knowledge made tangible within a context of problem solving or tangible through 'concrete actions' in the world. This is very much what practitioners see as knowledge. That is explicit

‘spectator’ knowledge made tangible through application to problem solving. So this ‘gap’ between academics and practitioners can be framed as a fundamental philosophical difference rather than simply as an exercise in refining curriculum an argument supported very widely (Rynes et al, 2001) and the subject of analysis later in this research.

2.2 Modernist epistemic underpinnings of the gap and knowledge creation and transfer

This section looks at epistemological issues and considers their role in the TP gap.

Because epistemic belief is foundationalist in nature, that is, knowledge of the world (epistemology) mirrors a perceived external reality (ontology) (Scott, 2010), it is particularly important in understanding the persistence of the gap and as the previous section argues, the different realities between academics and practitioners and indeed between different tribes within the academy may well predispose these groups to different epistemologies which will have a profound effect on their views of what constitutes legitimate knowledge. As Mingers (2001) argues “*each way of knowing* (or epistemology) *basically amounts to a paradigm through which members understand the world”.* Such paradigms influenced by social and agentic issues determine theories, assumptions and methods as well as views on truth, rules of evidence, and standards of rigor and shape the ways in which knowledge is obtained, assembled, and stored.

Despite an apparently developing interest in epistemological issues, critical consideration of their roles in shaping and distinguishing academic behaviour in comparison to practice behaviour is still often absent. In explaining criticisms of academic contributions to practice knowledge, critics question the relevance of academic knowledge, the scientific unity of the area (the ‘paradigm wars) and the accomplishments of business schools (criticism of curriculum and graduate competencies). They cite the lack of an adequate epistemology for management research (Montuori, 1997, French, 2009,

Hatchuel, 2005, Bagley, 2000). However Hutchuel argues that these debates are symptomatic not of a failure of management research but suggest the need for a new or a better definition or aggiornamento of the value or actionability of management research. Because issues of epistemic belief and values hinge ultimately on the ontological and epistemic perspectives of academics and practitioners, values or beliefs about knowledge can also be forces of division. To avoid the trap of illegitimacy of knowledge under an academic epistemology a move (to a clearer epistemology of action) would require a better understanding of actionability within a practice epistemology.

The literature on epistemic influence is as Trowler (2008) found, diverse and frustratingly unstructured for an issue so fundamental to the education process. Whilst Vaara (1999) argues that there is a lack of critical reflection on the influence of epistemology in the context of strategic management studies. The relationship between ontology and epistemology is central to understanding the social world in particular of education in respect of issues like conceptions of quality, teachers interactions with students, orientations to students or the goals of education. The academy's claim to the truth of classical management theory stems from its prevailing 'modernist' (Parker, 2002, Nodoushani, 2000, Raelin, 2007) predisposition to adopt as legitimate knowledge that is represented in decontextualized, abstract statements of laws or law like theory without regard to improved management practice or organizational performance (Vaara and Kakkuri-Knuuttila, 1999) underpinned by a 'positivist' distinction between values and facts (Namagami, 1998). In this paradigm Parker (2002, p106) describes a framework which is knowable and certain, a *"machinery of judgement' that guarantees some form of certainty"* about management behaviour which through the scientific method knowledge reveals how management should behave. But as French points out (2009) a paradigm like modernism that appears rational in a predictable linear system becomes less rational or limited in explanatory potential in a complex, self-adapting, context driven, socially and historically driven system like a modern business. Indeed the positivist paradigm has been widely criticised but its survival in academic use suggests that the modernist epistemology is significant to the academy's claim to superior knowledge. But

as Jeffcut contends (2004) positivism has been extensively criticised and abandoned by social science philosophers (Polkinghorne, 1983). Furthermore its critics assert that positivism has been a driving force behind the distancing of theory from practice (Raelin, 2007, Thomas, 1997) and is behind the relevance versus rigour dilemma by diverting institutions away from the areas of practice in which it originated (Schon, 2001). This paradigm is still the dominant form (Chen and Hirschheim, 2004) and its adoption by business schools owes more to their need for academic legitimacy than its suitability as a epistemology to reflect the ontological conditions of business practice (Mitroff and Churchman, 1992

A number of researchers argue for the "*enhancement and enrichment*" of the epistemology of the field (Nodoushani, 2000, Huff and Huff, 2001, Starkey and Madan, 2001, Van de Ven, 2002, David et al., 2001). Others have criticised management research as lacking a clear epistemic identity (O'Hear, 1998, Witrock and Elzinga, 1985) or as pre-paradigmatic (Macfarlane, 1995,1998, Becher, 1994, Tight and O'Hear,1998).

These contrasting positions are evidence of the epistemic gap between different attitudes to knowledge. They are as Hutchuel describes, artifactual, and arising from the inadequate epistemology of the academic discipline itself. This lack of a clear epistemic identity, present in more mature disciplines like, law, medicine or engineering; underpins the management theory paradigm wars and contributes to the relevance gap by failing to recognise that actionable knowledge is not an automatic outcome of academic knowledge *per se* within an epistemology that restricts itself to seeking legitimacy through a modernist epistemology.

2.2.1 A critique of traditional epistemology and postmodern alternative epistemologies

As we have seen a modernist epistemology is vulnerable to two significant weaknesses. These are its lack a clear perspective about the nature of actionable knowledge and an inability to deal with the complexity and plurality of knowledge creation and application in modern organisational forms. The solution to this has been the borrowing of an epistemic relativist framework from other social disciplines. In the relativist position truth is not seen a set of proven law like beliefs but rather stems from a description of reality that is contextual, relative to a particular situation, at a particular time (Scott, 2010). There is a significant body of literature that discusses the process of knowledge creation and meaning in professional and social contexts (Yorks, 2005, Cook and Brown, 1999, Gibbons et al, 1994, Nonaka et al, 2001). There is a recognition that 'management' knowledge is being created in diverse, emergent situations, embedded in context and socially mediated and characterised by a greater degree of epistemic and social diversity than was recognised under the modernist discipline based knowledge creation paradigm that led to the prevalence of explicit mode 1 knowledge creation in the business school academy in the past 50 years (Gibbons et al, 1994, Nowotny et al, 2001). Hence an epistemology based on relativism seems very suited to knowledge creation in professional practice contexts. Raelin further argues that in the absence of a clear epistemology of management the social and interpretive positions will combine to create an uncertain and weak overall view of knowledge (Raelin, 2007). As the weaknesses of modernism became apparent, constructivist, realist and interpretivist paradigms began to exert an influence further weakening the unified modernist epistemic base of management theory and leading to the fragmentation of knowledge already referred to.

2.2.2 Multiple Realities

Epistemic differences between groups are very important. Discipline's or tribes have different views on what constitutes knowledge, different ways of practicing and thinking about the same issue. As Kuhn puts it in the Structure of Scientific Revolutions, "*knowledge is intrinsically the common property of a group or else nothing at all*" (Warmoth, 2000). The subjectivity acknowledged here seems a weakness although the interpretevist post modernist approach acknowledges this and positions the explicitness of this view as strength. Here the argument for subjectivity is assumed and the interpretivist reality see's little value in trying to identify an underlying 'truth' (Aram, 2003). Instead the interpretive social theorist seeks to understand a discipline through the shared multiple realities or epistemologies that arise (Morgan 1980. Such a framework suggests that the separation of outlook between practitioners and academics embedded in their own social groups is inevitable unless deliberate action is taken to address it.

Even this brief description above of some of perspectives on epistemic thought shows as Trowler described, the risk of becoming bogged down in philosophical reflection. But what it does show in a concrete way is the range of views which see knowledge as social, subjective and mediated by group normative structure. Critically the interpretivist school see the importance of understanding different epistemologies and making explicit the implications of this on the knowledge produced. As such they seek to make clear what university business schools fail to explain, that the epistemic stance of an academic community should be clear whilst allowing for a diversity of stance.

2.2.3 Group normative structure as a postmodernist framework

From this constructivist/interpretivist explanation we see that group normative structure is an essential key determinate of its epistemology. Epistemological essentialism (Trowler, 2008) suggests that academic attitudes are shaped by the social culture of their discipline (Clark, 1987) and that knowledge and even personal background is subservient to the academics socialisation into the

knowledge characteristics of their discipline. The concept of epistemological essentialism suggests that academics values are based on ontological legitimacy determined by their membership of an academic culture and through the values of their academic discipline and Institution. Central to the essentialist argument is the view that the influence of academics backgrounds is insignificant compared to the socialisation which frames these values. This is the structure argument referred to earlier above. In this sense essentialism refers to the fundamental attributes that make something what it is. The essentialist position in respect of education is that a discipline has a core of common knowledge or "essential" knowledge and competencies that endow the proficiency or skill that a practitioner should have, rather than a set of external truths (Bagley, 2000). This essentialist conception of academic identity emerges from the notion of higher education as self-referential (Hodgkinson and Rousseau, 2009), with knowledge as an intrinsic and exclusive property of academics themselves internally organised around the intellectual frameworks of academic disciplines. Echoing Trowler and Becher, individuals become academics through induction into communities or tribes of scholars and becoming academics by adopting the epistemological rules of their discipline (Henkel, 2000). Some of the characteristics of this induction are the familiar ones of theoretical rigour, and freedom from external pressure that might hinder the search for a disinterested search for truth. This goes someway to explaining the battleground between academics and practitioners, or the rigour versus relevance debate cited so widely (Boddy, 2007). Academics views on fundamental skills are shaped by their academic environment and in business or marketing education and the coherence of such views is further complicated by the lack of common epistemological identities of academic themselves. Academic epistemologies may have a number of structural sources, for example economics, sociology, mathematics and statistics, education, law and other academic disciplines or practice itself in some examples. Essentialism argues that it is the epistemological characteristics of the professional discipline in which academics are embedded rather than the practice discipline which they observe, that shapes academics views about the legitimacy of knowledge.

Personal or agentic characteristics are weaker influences compared to socialisation of the academic into the knowledge characteristics of their discipline and immediate academic culture (Clarke, 1987). The tensions which emerge from the gap between the conflicting epistemologies of groups both within academy and between academics and practitioners contribute strongly to maintaining the gap between practitioners and academic tribes. Becher expands the essentialist view by seeing epistemological identities as arising from an interplay between two dimensions of epistemological knowledge structures, the and the cognitive which form the essentialist fundamental attributes that shape academic epistemology. Based on Biglan and Kolbs typologies, O'Hear (1998) and Witrock (1985) suggest that business programs fail to have a clear epistemic identity.

Aram's (2003) argument is that the researcher-practitioner gap is fundamentally caused by the tension between different ways of knowing within the academy and between academics and practitioners. This tension uses familiar arguments about relevance and rigour or context specific against context free as ontological and epistemic shorthand for the essentialist view that the 'TP' gap arises from social and cultural conditioning arising from membership of the academy and its various tribes.

In essence the group normative, essentialist argument and Arams interpretation of Becher's typologies suggest that the business school in academy has a fragmented epistemic base, based on socialisation into internal group norms which when isolated from practitioner norms leads to separation into isolated communities of academic practice.

2.2.4 Epistemic communities of practice

In comparison to essentialist thinking, the concept of epistemic communities (Dunlop, 2000, Haas, 1992, Hakanson, 2010) and communities of practice (Wenger and Lave, 1990, Brown and Duguid, 1998, 1991) provide another framework through which the essential characteristics of groups emerge to maintain a distance from other groups based on shared values which add meaning and status. Hass' (1992) definition of the characteristics of epistemic communities shares a number of cultural, structural and agentic issues already discussed. Hass suggests that the cohesion of an epistemic community rises from 4 characteristics

(1) *a shared set of normative beliefs*

(2) shared causal beliefs derived from practice which shapes the framing of domain questions and policy and desired action'

(3) shared notions of validity based on internally defined criteria which validates knowledge within the discipline domain'.

These characteristics shape the epistemology of the discipline and the way in which the academy legitimises scholarly activity through the socialisation of academics into the knowledge characteristics of their discipline as we have seen with already with Trowler and Becher (op cit).

The important argument which falls out of these descriptions is that membership of a particular epistemic community is based on a situated learning process of 'cognitive socialisation (Holzner 1968, from Hakanson ibid) involving the 'role embedded' acquisition of tacit knowledge and experience based skill and judgement but within the confines of a particular epistemic community be it practice based or academic. As Holzner argues, the epistemic community defines the knowledge context.

The evidence derived from these discussions of epistemic communities suggest that epistemic beliefs, social constructs of knowledge and the cultures of communities of practice form a clear basis on which to explore fundamental

divisions between epistemologies of practice and academy. Whilst business school narrative remains unclear about such divisions and the theory practice gap persists, looking for evidence of a clear epistemic division between the two cultures would provide an indication that two separate epistemic communities exist. Such verification would encourage better transfer and articulation of explicit and tacit knowledge across epistemic boundaries through the definition of clear interfaces between the separate knowledge domains. Recognition of difference and acceptance of different validity's would enhance communication based on shared understanding at a fundamental epistemic levels rather than academe communicating via mode 1 language which is unsatisfactory for practice based mode 2 epistemic communities.

2.2.5 Conclusion and consolidation of major arguments

What we see from this argument is a further development of the argument for the weak epistemic identity of management research and teaching. The nature of the group normative structure in which academics work is to impose through esentialism a range of group structural and agentic forces which shape academic epistemic views. This mixture gives rise to Arams arguments concerning weak theoretical unity and cohesion and an overall lack of the clear epistemic identity which obtains in other fields like medicine or pure science

- The concept of epistemic communities provides a further framework for evaluating the structural forces which divide the academic and practice communities
- Hakanson and Holzner's concept of justified true belief suggests that knowledge is simply what a group wants it to be.

Finally although the epistemic basis for the legitimacy of academic management knowledge is acknowledged as an important issue the literature as Trowler argues, is diverse and lacking in coherence. An argument

supported by Tranfield (1998) who labelled the field as highly differentiated, heterogeneous and fragmented and operating to no single ontological or epistemological framework. Efforts to develop an epistemically acceptable underpinning for actionable research are hindered by the modernist arguments for rigour and reductionism. But postmodernist epistemologies fail to offer an alternative to the modernist de-contextualised, value free paradigm as they themselves are located in the value framework of the academic tradition in which they are produced. Hence in the absence of a clear epistemology linking academic research with practice, a postmodern epistemology just ads to the range of paradigms in place but without addressing the central issue of the TP gap.

So far academic epistemic issues have been the main issues discussed. Some perspective about what constitutes an epistemology of practice is needed to add perspective and completeness.

2.3 An Epistemology of Practice - Practice knowledge and knowledge for theory

In addressing the difficulty that postmodernist epistemologies face in addressing the TP gap, researchers have attempted to map out an epistemology linking academic and practice knowledge. This section looks at the arguments for an understanding of the epistemic position of practice by exploring Schon's critique of the traditional epistemology of professional practice and then explores alternative paradigms. In particular I look at the major alternatives to modernist and postmodernist positions, including Dewey's' pragmatic epistemology and the contribution of tacit knowledge and knowledge transfer to a possible epistemology of practice.

Starkey and Madans (2001) discussion of the relevance gap revealed extensive doubts about the utility of existing academic knowledge and advocated a model of knowledge production based around collaboration with practitioners. This suggestion is paradigmatic in nature (Hatchuel, 2002,2005)

but aligns academic research in the direction of an epistemology of practice or participation (Montuori, 1997) and reflects a growing number of calls for knowledge that is actionable especially in respect of organizational decision making (Beer, 2001). This poses a challenge to academics socialised into predominantly bystander (Montuori, 1997) modernist discipline and institutional epistemology. Thomas argues in Jeffcutt (2004) positivism has been widely abandoned as the dominant paradigm of human studies. This criticism sees a weakening of the homogenous models of modernism and instead as Parker (2002) argues looks toward a general move towards postmodern epistemologies. Such epistemologies could include Montuori's (1997) concept of an epistemology of complex thought or Schons (1983) argument for an epistemology of practice. In a reflection on Starkey and Madans' paper Weick (2001) discussed the need for a clarification on what constitutes a criteria of 'actionable knowledge'.

The issue of epistemic views are also fundamental to the divide between the academy and practice characterised by Gibbons exploration of mode 1 and mode 2 knowledge. Often in presenting themselves to the practice world higher education institutions use a narrative that fits with both practice and academic epistemologies but in practice as we have seen a far more complex set of influences ensure that the theory practice gap remains wide, which suggests that agentic, structural and epistemic views collide to squeeze out a contribution by practice. This leads inevitably to an exploration of what constitutes an epistemology of practice.

To address this issue an understanding of the nature of practice epistemology is necessary if the academy is to attempt to close the gap

2.3.1 The prevailing paradigm of professional knowledge. A critique

Schein (1974) and Glazer (1974) in particular describe the nature of the prevailing traditional model of professional education and Schon illustrates the weakness of existing business school paradigm through Schein's (Schein, 1974) division of professional knowledge into three components:

- the basic underlying science from which the discipline is developed
- the applied component from which practice solutions are derived
- a skills and attitudinal component that relates to practice performance

Applied to the business school, earlier criticism suggests that

> The first component is vulnerable to arguments of relevance, (Reed, 2009, Starkey and Madan, 2001, McColes, 2004),
>
> The second component is open to criticism through failure to develop business managers with the right portfolio of competences (Worrall, 2008, Bennis and OToole, 2005, Rynes et al, 2001).
>
> Rynes et all (2001) criticise the final component through the argument that academics and practitioners have such different frames of reference that they find difficulty in agreeing on what constitutes valid knowledge, that is knowledge of what (academic) contrasted with knowledge of how (practice).

Schon' articulates Schien's argument by arguing that the highest level of epistemic purity is at the level of basic science which has the highest degree of methodological purity and rigour, with its practitioners – academics –having the superior status to those who practice problem solving in an applied sense. Here we begin to see further evidence for an epistemic gap as a basic issue of separation between practice and academy. Schon further articulates the nature of an epistemology of professional practice through Glazers (1974) discussion of the predicament of the minor professions in academy such as social work or education who he claims try to substitute scientific knowledge for their reliance on practice or practitioners. These minor professions he argues lack fixed and unambiguous ends and a basis for systematic scientific knowledge. From this they cannot apply scientific knowledge to the solution of instrumental problems and hence are unable to produce a rigorous curriculum of professional education. Glazer asserts that such professions

are unable to structure a curriculum providing a fixed content of professional education like medicine or law. Thus they fail to provide a knowledge base which is relevant for professional practice of that minor discipline.

Interestingly Glazer himself included business as one of the major disciplines. However he provided no evidence for his choice of major or minor disciplines relying instead on the argument about their epistemic status without justifying his choice of what disciplines were positioned where. Indeed it seems that from arguments about textbook relevance, thorough contextualisation to tribal structures or agency and structure debates, we find evidence that sees business as a minor discipline in the sense of lacking a clear epistemic underpinning linking academic theory with practice.

The following sections look at the main epistemologies of practice which themselves can form elements of the TP gap.

2.3.1.1 Reflection in Action

In his book The Reflective Practitioner (Schon, 1991) the author criticises the prevailing model of 'technical rationality' that underpins how researchers and educators think (their epistemology). His criticisms stem from the complexity of the environment of practice, meaning that professional competencies are harder to define. Schon, (2001) relates the views of educators who called for the "*liberation of professions form the tyranny*" of university based education and from those describing how the pluralism of practice and professional schools resulted in differing views about competencies, problems worth addressing and the character of the profession. At heart, Schon's critique borrows from Dewey's arguments eighty years earlier. Here professional problem solving is based not only on means or instrumental solutions but also 'ends in view'. Thus problem solving and techniques of practice are coextensive with a plurality of indeterminable ends.
Schon is engaged in an effort to describe a new epistemology of practice (Gilroy, 1993, Eraut, 1995) and describes practice performance in terms of tacit knowing-in-action, but describes a process he calls 'reflection in action'.

In effect the process Schon describes is one where practitioners encounter situations they first model their response based on their preparation from theory. On encountering similar situations again they reflect on past outcomes and their response becomes increasingly tacit and spontaneous (ibid p61).

Reflective practitioners are effectively researchers in a practice context but not spectators. They are not dependent on theory but solve practice problems through evolving a new theory of the situation. Means and ends are defined interactively with implementation integral to the process. Thus reflection in action can make progress in unique or uncertain situations because it is not bound by the limitations of technical rationality. In effect Schons major point is that there is a separation between knowing and doing and he strongly argued the case for his epistemology of doing which has been particularly widely applied in the nursing and teaching professions (Hillier, 2005, Canning, 2008)

Schon himself recognised a flaw in his own argument. This relates to the nature of one's ability to reflect on the use of tacit knowledge. Reflecting on something that is tacit, that is something that is known but cannot clearly be described would seem to be a paradox. In effect, academic epistemologies whether modernist or postmodernist, are effectively prescriptive through seeking laws or regularities, irrespective of empiricism. A descriptivist epistemology however melds action and explanation to show how something previously not understood can be understood through understanding how others (practitioners) come to know what they know through empiricism (Heyes, 2001)

Another criticism of Schon as a solution to the need for an epistemology of business is Schons own description of Glazer's depiction of minor and major disciplines. The minor disciplines lack fixed institutional contexts and unambiguous goals. In aping major disciplines, these minor disciplines address instrumental problems using scientific knowledge as a means of raising their academic status but the result is they fail to produce a rigorous curriculum suited to professional practice, which is a frequent criticism of

academic marketing curricula. One approach that recognises the weaknesses of such approaches is Dewey's.

2.3.1.2 Dewey's Epistemology of Practice and Experience –warranted assertions

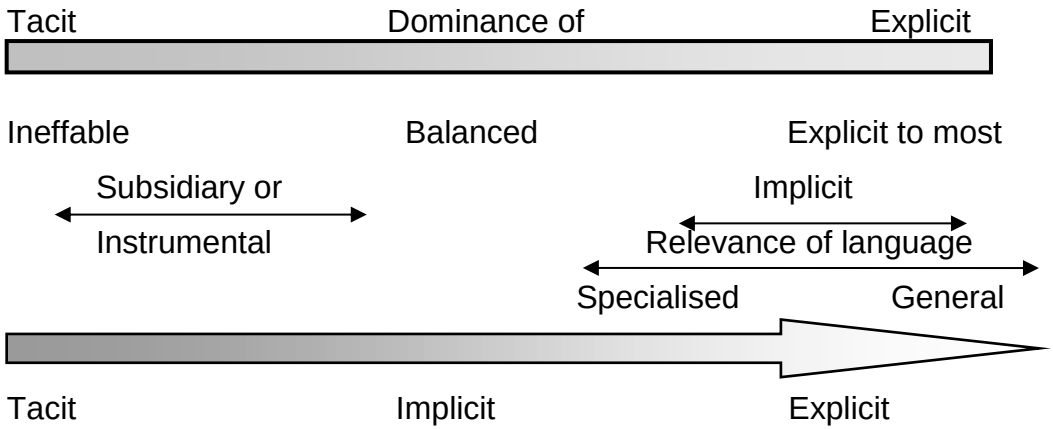
Dewey's epistemology is one based on experience. Rejecting the spectator theory of knowledge his approach led him to argue for a pragmatic view of learning based on the argument that all epistemologies prior to his were spectatorial in nature (Kulp, 1992). The basic tenant of his approach is that knowledge and action should not be separated, (Fendt et al, 2007, Boyles, 2006, Dewey, 1938a, Kulp, 1992). Dewey's pragmatism emerged from his dissatisfaction with the disconnected natures of the epistemologies being presented, especially efforts to disconnect perception and knowing. His pragmatist position aims to create useful knowledge by translating knowledge into action. This led to a specification for the nature of an epistemology of education for practice using two dimensions – the epistemological (credibility and reliability in knowledge) and normative (usefulness in problem solving). In this way Dewey sought to overcome the dilemma of the separation of theory and practice or the difference between knowledge (analogous to theory), which he sees as disconnected from enquiry) and knowing which represents practice (Fendt et al, 2007, Boyles, 2006). Indeed the danger of knowledge is that it becomes a superior goal to knowing, hence inquiry or knowing becomes subordinated to an entity (knowledge). Thus an epistemology that emphasises knowledge without action becomes an epistemology that forces a separation between knowledge (theory) and knowing (practice). In remedy Dewey put forward an epistemology based on warranted assertability (Dewey, 1938b, Boyles, 2006). Dewey's argument is complex but I will briefly describe it because it is an important step to understanding how an epistemology of experience or action provides an alternative to the either modernist or postmodernist positions adopted by business schools. Dewey's revision of traditional epistemologies is based on two issues. The first is the need for a fallabalist account of theory and practice based on the amalgamation of inductive and deductive approaches as an essential ingredient and the

second is Dewey's aim to describe an epistemology of experience. In arguing that spectator knowledge has a limited facility to distinguish between knowing and knowledge and that knowledge is embedded in action and judgments of people Dewey introduces a framework that Polanyi later became the main philosophical source for – the nature of tacit knowledge – which Nonaka later developed into a theory of knowledge management and creation (Gourlay, 2002).

2.3.1.3 Tacit knowing

The basis insight of 'knowing more than can be told' is most often attributed to Polanyi (Gourlay, 2002), although Ryle's 'knowledge- how' distinction from 'knowledge - that' is a similar concept (Stanley and Williamson, 2001). Eraut (1985) describe how Argryis and Schon draw a distinction between implicit theories of use and espoused theories which has overtones of the tacit knowledge concept and Oakeshot 1962) makes the distinction between technical or codified knowledge and practical knowledge which exists only through experience of practice. All these perspectives share some roughly common themes. In essence that theme is that we know more than we can tell and that practice knowing is hard to tell as it is rooted in action and involvement in a specific context (Raelin, 2007, Polanyi, 1966). This raises a very crucial point I believe and one made variously by Grant (2007) and seperatly by Gao et al, (2008). Both these papers position tacit, implicit and explicit knowledge types on a continum as shown below

Figure 2 Grants Tacit/Explicit Dimenesion derived from Polanyi



Gao et al continuum of explicit and tacit knowledge

Here we see that tacit is clearly distinguished from explicit knowledge. Where tacit knowledge is action orientated, personal, skill based, of experience and practice expertise, where managers are the holders of knowledge. It is rooted in context and is hard to understand or frame in abstract terms, and often hard to articulate in theoretical terms (Raelin, 2007, Van de Ven and Johnson, 2006, Hackley, 1999a). It is implicit in organisational and situational situations (Wright, 2008) and is a vital element in the creation of effective organisational knowledge creation (Nonaka and von Krogh, 2009, Nonaka et al, 2001). A number of scholars argue that tacit knowledge is central to achieving competitive advantage (Nonaka, 1991, Wright, 2008, Spender, 1995, Ambrosini, 2001) and hence the need to manage knowledge and sustain tacit knowledge within organisations to ensure the continuance of a key competitive strength. It is clear that explicit knowledge or knowledge of theory is by itself insufficient to generate clear competitive advantage. However the ability to codify and retain tacit knowledge (making it explicit) independent to the movement of managers is the justification for the emerging discipline of knowledge management. It should also be stressed that both Polanyi and Nonaka emphasise the corporate or community nature of tacit knowledge (Grant, 2007, Gao et al, 2003, 2008). This becomes an important concept because it points to an epistemological foundation for the recognition of the importance of tacit knowledge on one hand and on the other that in a community which shares a common view of essential tacit knowledge, such

knowledge becomes *implicit* to that community (Grant, 2007). This again raises the argument for the epistemic nature underpinning the TP gap. Indeed as Hackley points out, the theoretical base for academic marketing management has been criticised over its ability to impart high levels of expertise in graduates. Yet the dichotomy that Hackley (1999) identifies is that the premise that there is a connection between theory and expert practice remains unchallenged. He goes on to argue that practical marketing knowledge is tacit in nature, contextual and hard to codify echoing criticisms of the marketing textbook. Indeed the massification of business school education may have supported the further imposition of an 'external epistemology' (Wright, 2008) which further reduces considerations of tacit knowledge.

Explicit knowledge is knowledge at the other end of the spectrum. It is codified in abstract theoretical terms, it is non contextualised and applies more generally across a range of contexts and situations. It is easy to communicate (Jasimuddin et al, 2005) and suits the epistemic positions of academics. The juxtaposition of these different types of knowledge and their significance in the TP gap make it important to understand how knowledge is created and used. This is evaluated in the following section

2.3.2 Knowledge Creation and Management

Knowledge management has emerged as an important discipline. Partly due to the importance of managing tacit knowledge but also because the process of knowledge management influences the value of knowledge produced.

2.3.2.1 Modes 1 and 2 knowledge production

Starkey and Madan (2001) have argued that the academic practice gap has hindered the creation of new knowledge and was caused by a management research philosophy and research practice based on the concept of mode 1 knowledge as described in Gibbons et al in The Production of New Knowledge (1940). Here the concepts of modes 1 and 2 knowledge address

the issue of knowledge in action. In mode 1, knowledge is less concerned with discipline knowledge than in the use of knowledge in terms of explicit theory where problems are set and solved in the context of the interests (explicit knowledge) of the academic community. In Mode 2 they are solved in the context of application, emphasising the use of tacit knowledge

Mode 1 or explicit text book knowledge is criticised for being outmoded (Becher, 1989) and contributing to the persistence of the relevance gap. Indeed Becher (op cit) argues that academic disciplinary structures themselves confer an epistemic rigidity to university views on knowledge which lock academy into mode 1 thinking, producing an academic agenda located inside academy and focused on 'fundamental' rather than 'applied' knowledge.

Alternatively mode 2 knowledge is the epistemological basis for knowledge produced and used by management practitioners. It is emergent based on exogenous forces, sometimes trans-disciplinary and in particular it is applied, contextual and participant in nature (Heritage, 1984). Based on Gibbons description of modes 1 and 2 knowledge, Becher (op cit) concludes by quoting Etzkowitz and Leydesdorff (1997) that the natural home of mode 2 knowledge lies in practice itself not in academy. The reasons for this stem from the nature of mode 2 knowledge which Gibbons (1994) describes as - Interdisciplinary, trans disciplinary, heterogeneous and organizationally diverse but with enhanced social accountability

The dominant description driven mode 1 knowledge creation mode in business school research, leads Hambrick (1994) to call for the incestuous closed loop of academic of research within academic institutions for academic consumption, to be opened up to mode 2 knowledge. Business schools having as their mission the training of practitioners as professionals should see mode 2 knowledge production as at least the equal of mode 1 and look to new research approaches to include in their pedagogic designs. This is an important point given that here are arguments which suggest that significant new knowledge or knowledge at a higher ontological level than explicit

knowledge is created by combining explicit with tacit knowledge in the act of practice. This argument is examined in the following section

2.3.2.2 Knowledge Creation

Various strands of analysis characterise two group's attitudes to what constitutes useful knowledge. These include concepts related to types of knowledge used by the different communities, particularly tacit and explicit knowledge and also knowledge creation and use via mode 1 and 2 knowledge. In effect these analyses broadly separate knowledge into knowledge for action and knowledge of theory. Rynes and Bartunek (2001) reinforced this perspective and discussed Nonaka et al (1994) development of Polyani's (1966) distinction of how tacit and explicit knowledge combine together in a mutually reinforcing way to create significant new knowledge. According to Nonaka ontologically higher levels of knowledge are created through the mobilization of tacit knowledge. Nonaka and Takeuchi in Neff (1999) further develop the means by which tacit knowledge becomes explicit through social interaction. Academic separation from practice limits social connections which suggests that lack of relevance is inherent and culturally and epistemology embedded in the academic research community whose emphasis on mode 1 knowledge limits their ability to produce new knowledge at an ontologically higher level. Nonanka (2005, p158) emphasises the importance to practitioners of tacit knowledge and its articulation within a (practitioner) social network.

Figure 3 Nonaka's Spiral of Knowledge

Diagram removed for reasons of copywright. Nonaka, I. & Takeuchi, H. (1995), The Knowledge Creating Company, Oxford: Oxford University Press

From the diagram we see Nonaka's argument about the centrality of tacit knowledge and how interaction between tacit and explicit through dialogue and doing leads to new knowledge and indeed the creation of new organizational knowledge but is contingent on the sharing of tacit knowledge between participants in a problem solving situation and context (Von Krogh, 2000)

Nonaka in his influential work 'A Dynamic Theory of Organisational Knowledge' (1994), identifies the articulation of tacit knowledge as a key factor in knowledge creation, not knowledge itself, which in absence of context and aims is merely information. This dichotomy of perspective between tacit (embedded, problem solving, business network based, parallel, knowing) and explicit knowledge (indirect, problem secondary, academic network based, digital and information based) is epistemological in nature. He goes on to argue (p155) that it is the social interaction between individuals that shape and develop knowledge, a process he describes as the ontological dimension of knowledge creation. This supports the argument that academics and practitioners are divided by both epistemology and ontology. Academics with a spectator theory of knowledge operating in a reductionist manner are emphasising a different organisation of knowledge to Nomanka and Dewey and practitioners.

Indeed in arguing this epistemological gap Nonaka suggests that the role of organisational epistemologist who focuses on the nature of knowledge be considered

However there is another concept that the corporate epistemologist could use to explore the nature and value of knowledge within an organisation and that concept is explored next

2.3.2.3 Epistemic work – adding value to knowledge

The weak epistemic position of marketing theory can partly be explained by its separation from practice. For example knowing mathematics or history does

not make one a mathematician or historian. It is the act of doing 'that' which adds value to knowledge and the act of doing which endows us with knowing. This is Dewey's concept of productive enquiry and Nonaka'a argument on moving mode 1 knowledge to the higher ontological level of mode 2. In a sense, the existing epistemologies which obtain in academy and in practice are sufficient in their respective domains. But separation between knowledge in academy and knowing in practice means a weaker epistemology or lower hierarchical epistemological position for both sides. Cook (1999) makes this argument by saying that each paradigm does epistemic work that the other cannot do. However separation is only part of the issue. Until an epistemology which unites management theory with practice emerges, epistemic essentialism (the notion that a set of attributes define a groups function and identity) and Trowler's cultural gaps will combine to push the sides apart. Such an epistemology would have a synergistic effect and has the potential to provide a mature epistemology of academy and practice similar to medicine or other mature epistemological communities.

Particularly in practice, knowledge is inseparable from action. So until academics offer practitioners actionable initiatives practitioners will not seek out theorists. Similarly without an epistemology that demonstrates a superior ontological and epistemic position even a postmodernist epistemology will not be sufficient to encourage academics to take a more practitioner participative stance.

Such an epistemology will only be effective if it demonstrates a superior ontological and epistemic level and in the absence of discussion on what constitutes a higher or lower epistemic level, most arguments are about different epistemologies and how failure to understand this difference leads to a separation between theory and practice. With the exception of Nonaka and some arguments about the weak epistemology of business in academy the concept of hierarchies of epistemology are absent. However by seeing epistemologies as hierarchies with the most productive epistemology providing a basis for the most valuable output we begin to see epistemology as a way of adding value to a knowledge base. This brings into play the idea

of epistemic work – or understanding epistemologies as things to be tailored to maximise the productive output of knowledge.

So if main current epistemologies do epistemic work sufficient to satisfy their academic constituency we need to address the nature of an epistemic approach that is not just an epistemology for academy or practice but one that is synergistic for both sides. Such a formulation has the capacity to attract usage from both sides of the gap and producer a genuine rapprochement and mature epistemology of theory-practice. The concept of epistemic work of Cook and Brown[1] and Olikowski's, knowing in practice challenges the objectivist/constructivist paradigms and provides a conceptualisation of an epistemology based on epistemic work and knowing in practice.

Table 2 Cook and Brown and Orlikoski's practice based epistemology

Practice based epistemology Cook and Brown	Knowing in Practice Orlikowski
Knowledge is embodied in practice. Knowing doing inseparable	Knowledgeability generated through action
Knowledge is embodied in people Knowledge is socially constructed	Tacit knowledge is a form of knowing
Knowledge is culturally embedded Knowledge is contestable Knowledge is socially constructed	Situated in action. Context sensitive
Tacit and explicit are inseparable and mutually constructed	Construction and reconstruction of knowledgeability in and through action
Knowledge is multidimensional	

Adapted from (Hislop, 2005, Virtanen, 2010, Duffy, 1992)

1 Epistemic work is defined as "*work people must do to acquire, confirm, deploy or modify what needs to be known in order for them to do what they do*" (Cook and Brown, 1999,p399)

The practice based epistemology of Cook and Brown (1999) challenges the traditional understanding of the nature of knowledge as an entity people can possess. They call this an epistemology of possession which they claim privileges explicit over tacit knowledge. Key to their view is their use of the concept of 'epistemic work'. This concept expresses the notion that there is

more epistemic work done in something humans do than is accounted for by what they know. Here explicit and tacit knowledge are combined in practice. This is an important and unique idea as it endows a particular epistemology with the ability to produce enhanced outcomes. It is not only the basis for an epistemology of practice but also of performance. The major concept challenges constructivist and objectivist epistemologies and provides a conceptualisation of theory-practice epistemology based on the value added through the epistemic work of knowledge and knowing, as inseparable but located in action. Such a view relegates knowledge if not quite to a bystander perspective, but to something outside the world, abstract or on its own, static, and a tool at the service of practice and in that service doing epistemic work

The conceptions of epistemic work and knowing in practice are relevant to both theorists and practitioners. For both Cook and Orlikowski knowledge is embedded in practice with traditional knowledge being something 'for' action and from action becomes knowing Neither thematise on how knowledge is turned into knowing but instead concentrate on how knowing and knowledge are generated and employed in practice. For them epistemic work and knowing in practice are synonymous and they see tacit and explicit knowledge, individual and group knowledge as equals as each does work other cannot do

Cook and Orlikowski share several assumptions –

1 Both contend that knowledge is an inherent part of practice and critically argue that it is of action itself. This is distinct from the traditional view that knowledge is something 'for' action.
2 Ryle's (1949) distinction of knowing 'that' and 'how' and the interdependency of both aspects of knowing is shared by both.
3 Both share Polanyi's (1967) concept of tacit knowing as inherent in the ability to do things and the difficulty of its articulation.
4 Each employ Schon's (1983) concept of the 'reflective practitioner' which crucially introduced concepts like 'knowing in practice' and 'knowing in action'.

Cook and Brown maintain that epistemologies of knowledge as possession are inadequate as not all that is known can be reflected by such an understanding. Such a stance argues that it is human action or intervention that creates epistemic work and that such work is therefore part intellectual and practice. From this argument emerges an epistemology of theory-practice that adds synergistic epistemic value because it can do more 'work' than the previously separate epistemologies of theory or practice were capable of doing. Implicit in their argument is the notion that genuinely new knowledge can only arise from epistemic work.

Similarly Orlikowski's notion of knowing in practice is underpinned by the concept of 'knowledgeabilty '. For Orlikowski knowing and practice make no sense as separate items, they exist in doing something in the world.

Common to both Cook and Brown and Orlikowski is their conceptualization of knowledge and knowing as epistemic. Neither see knowledge as having value in itself but only when serving knowing.

But despite a lack of clarity in some respects, the concept of epistemic work offers a significant resolution to the epistemic isolation of epistemologies of theory and practice. Significantly it introduces the idea that epistemic work offers a higher level of epistemic and ontological output. It offers advantages to academics by providing an opportunity for an advanced epistemology of theory-practice and addresses the epistemic limitations of existing epistemological conceptions. For practitioners it provides an opportunity to see academic work as contributing to practice knowing. It also introduces a notion of epistemology as a means of improving knowledge management practices and information us.

2.4 Consolidation of major arguments and Conclusions Reflection and bridging the gap

2.4.1 Reflection

The review above makes a number of key points. It suggests strongly that members of different groups will be subject to different structural and agentic influences which will affect their epistemic stance. In examining modernist, i.e positivist, epistemologies we find a number of criticisms relating to the paradigm's inability to reflect the multi-textured reality of marketing or business practice via a reductionist method. Looking at postmodern epistemologies like constructionism, interpretivism, epistemic communities or Montuori's epistemology of complex thought and the actionable knowledge of Weick we also see problems. Although more contextual in themselves their contexts are shaped through the epistemic essentialism of the backgrounds of academics. These backgrounds vary across academic disciplines and even where they do include practice can be susceptible to essentialism especially in the face of perverse incentives. This suggests that a number of epistemologies obtain across faculties and schools. Connect this to arguments about the pre-paradigmatic or weak epistemological underpinning of business and we see an inability across the discipline to provide a uniform epistemic base for the connection of practice to theory as obtains in more mature disciplines like medicine or engineering

Concepts like mode 1 and 2 knowledge illuminate the different languages of practitioners and academics. Tacit and explicit frameworks add understanding of the ways in which knowledge is used by the two communities. Both emphasise the centrality of engagement and dialogue and provide some guidance to closing the gap through narrative. But until engagement is incentivised to the same extent as academic publishing it will remain minority paradigms in faculty. And as Heritage (1984) reflects the significance of mode 2 knowledge may be growing as the number of knowledge users outside universities using mode 2 now outnumber mode 1

inside them. The effect of this according to Scott (2010) is the erosion of traditional academic culture and the rise of work based knowledge and competence. Such a move he argues requires an epistemological shift away from mode 1 teaching to open systems informed by and interactive with outside stake holders such as business practice. This shows the limitations of earlier attempts to construct an epistemology of practice for example Schon's reflective practitioner and Dewey's warranted assertions, where engagement is not a central feature.

Nonaka's knowledge spiral points to how actionable knowledge can be created through informal means like socialising or analogy to more formal means like training or the codification of knowledge. The key issue is that Nonaka shows how theory can be turned into actionable knowledge but that the process requires the creators of theory or the holders of tacit knowledge to actually engage in sharing and communication and in particular engage with the intention of sharing and creating actionable knowledge. Such a process would require academics to develop theory or pedagogy within a framework of action, context or practice and in concert with practitioners.

It is also clear that recent political circumstances have emphasised such collaborations and the search for relevance to practice by researchers, is a trend likely to be further strengthened by the prevailing economic climate and the continuing emphasis on employability and student pressure and fees, for instrumental skills and knowing that enhances employability, rather than the more traditional emphasis on intrinsic knowledge. These trends may encourage academics and business schools to think more about their epistemological and ontological positions and be more explicit about them and about the benefits that publishing and research have for students, practitioners and researchers themselves Boyles (2006) This emphasis on values underlines my own point and emphasises the need for academics to understand how the epistemology of their teaching can facilitate the development of values which correspond to practice, together with the recognition that solutions need to be grounded in reality and in the need to

discover and articulate the tacit skills and values which underpin business performance.

Finally we examined the significant work of Cook and Brown and Orlikowski. Their similar conceptions in re defining knowledge as a servant of knowing in practice provides an opportunity for a genuine epistemology of theory-practice to emerge Their conception of knowledge and knowing as conjoined in the solution of issues by people is characterised as doing epistemic work. Because such a conceptualization is capable of doing more than either separate epistemologies of theory or practice can achieve, it is arguable that epistemic work is situated at a higher epistemic and ontological level or hierarchy than either objectivist or constructivist paradigms occupy.

The weak epistemic position of marketing theory can partly be explained by its separation from practice. As Schon or Cook and Brown argue in their development of epistemologies for practice and the critics of over emphasis on theory rather than action in business school curricula like Mintzburg point out, It is the act of doing that that adds value to knowledge and the act of doing which endows us with theories that are actionable in practice or Cook and Brown's knowing and Nonaka'a argument on moving mode 1 knowledge to the higher ontological level of mode 2. In a sense, the existing epistemologies which obtain in academy and in practice are sufficient in their respective domains. But separation between knowledge in academy and knowing in practice means a weaker epistemology or lower hierarchical epistemological position for both sides. Cook (1999) makes this argument by saying that each paradigm does epistemic work that the other cannot do. However separation is only part of the issue. Until an epistemology which unites management theory with practice emerges, epistemic essentialism and Trowler's cultural gaps will combine to push the sides apart. Such an epistemology would have a synergistic effect and following Bechers argument, has the potential to provide a mature epistemology of academy and practice similar to medicine or other mature epistemological communities.

Attempts to construct an epistemology of practice on its own will not close the TP gap. Concepts like mode 1 and 2 knowledge illustrate the different languages of practitioners and academics but provide no imperative to combine them in theory and use. Tacit and explicit knowledge frameworks does provide some guidance to closing the gap through narrative but none of these acts to close the gap at an epistemic level. So until academics offer practitioners actionable initiatives practitioners will not seek out theorists. Similarly without an epistemology that demonstrates a superior ontological and epistemic position even a postmodernist epistemology will not be sufficient to encourage academics to take a more practitioner participative stance.

Such an epistemology will only be effective if it demonstrates a superior ontological and epistemic level and in the absence of discussion on what constitutes a higher or lower epistemic level, most arguments are about different epistemologies and how failure to understand the difference between them leads to a separation between theory and practice. With the exception of Nonaka and some arguments about the weak epistemology of business in academy the concept of hierarchies of epistemology are absent. However by seeing epistemologies as hierarchies with the most productive epistemology providing a basis for the most valuable output we begin to see epistemology as a way of adding value to a knowledge base. This brings into play the idea of epistemic work – or understanding epistemologies as things to be tailored to maximise the productive output of knowledge.

> *Ultimately, a practice epistemology should be able to target outcomes that are specifically practice based. In other words, that derive from learning from within the practice world rather than from the classroom*
> *Raelin 2006*

A solution to the TP gap can therefore be seen to emerge from addressing structural disincentives together with a framework for an epistemology capable of providing the maturity and addressing the argument of weak epistemic or pre-paradigmatic status

2.4.2 Bridging the gap

Such a multifaceted issue will inevitably require a complex range of solutions. The first section below mostly looks at the various arguments which address structural solutions whist the second part looks at arguments for epistemic or paradigmatic reforms

Overall the literature frames the fundamental nature of the gap as variously structural and agentic (Clarke 1987) or as epistemic differences based around epistemologies of possession or action (Cooke, 1999, Assudani, 1995), or around modernist positivist approaches versus postmodern critical realism (Hodgkinson, 2009). Individual standpoints on the nature of knowledge, influences how the gap is described. For example if the gap is framed as possession then typically the issue is a transfer knowledge problem (Tranfield 2003). Other framings include different languages for theory and practice. Framed this way the gap is the product of a knowledge production failure (Van den Ven, 2006) where lack of engagement becomes a serious barrier to academics reflecting the social co-production nature of knowledge creation in practitioner language modes,

A wide range of prescriptive proposals to bridge the gap have been put forward. In the main they provide structural solutions to the range of barriers identified. Some offer a range of prescriptive solutions others appeal for scholars to do more to address the gap. For example Wolf (2012) lists fourteen ways to address the relevance gap, Baker et al (2013) suggests seven. As do Petruci (2007) and Hughes (2008) whilst Ferguson (2005) lists 10. Broadly speaking these ideas address the range of perverse incentives discussed earlier. McNatt (2010) asserts that such suggestions generally contain one of three themes. The first concerns where and what academics publish. This addresses issues such as actionable recommendations, type of language, revisions of journal guidelines to include practice issues, translation services and writing for practitioner publications but also integrating practice with the formulation of research topics, all of which address issues visited earlier and is related to knowledge creation. The second theme addresses

improving communication between the groups. This deals with closer relations through conference, networking, better communication of results, and mutual involvement in shaping discipline knowledge and the theme is closely related to the knowledge transfer issue. Mcnatt's third gap closing theme relates to more and better engagement and involves collaborations to better understand issues of importance to practice, incentives to encourage academics to spend time in practice organisations, but also schemes to encourage practice to link with academy.

Other researchers address individual perverse incentives in the academic paradigm such as reform of the RAE (McDonald, 2003b), more engagement with practice and so on. Examples of other themes include engaged scholarship (Van den Ven 2006), which again emphasises the need for engagement with practitioners in setting the research problem and interpretation of its findings; partnership teams (Cyert 1997), practitioner partnerships in interpreting research (Amabile et al, 2001), evidence based collaborations (Rousseau, 2007), academic restructuring to incentivise practitioner focus, (Pfeffer and Fong, 2002,) evidence-based management (Pfeffer and Sutton, 2006) and relational scholarship (Bartunk, 2007). Other approaches include revision of reward structures (Kilman et a, 1983). Increased communication and interaction is listed as perhaps the most significant factor by Rudolph (Gibson-Sweet 2010). David adds the perspective of aligning the business school with corporate needs (David et al, 2011). In terms of addressing teaching and research the role of dialogue between the two groups has been shown to act to mitigate the gap between relevance and rigour and to reduce cultural gaps between the two groups (Tranfield, 2002). The issue of engagement and dialogue as an important factor in addressing teaching and research relevance has been widely endorsed with both Association of Business Schools (Edmondson et al, 2012) and the Science Business Innovation Board reports arguing that more engagement with practice would address disconnects between teaching and practice (ABS, 2012, Edmondson, 2012). A point supported by the ABS (2012) who called for business schools to develop a closer dialogue with practice and specifically with SME's. In particular universities should

emphasise recruiting people who bring a practice skill set and orientation to develop partnerships with practice and develop faculty competences in applied working (ibid).

Engagement with practice could also address the issue of separation by modes of language like modes 1 and 2 or tacit and explicit. Dialogue and social interaction between academics, practitioners and management consultants can provide opportunities for research problems to be set and addressed using the language of practice as well as providing for knowledge transfer (Maclean, 2001). Setting research in the context of mode 2 knowledge production would require engagement sometimes over a long time period to enable the complexity of the situation to unfold. Hence as Tranfield (2002) argues dialogue and long term high quality relationships with practice are a key to understanding and interpreting this issues which emerge together with the researchers engagement with critical reflexivity to address the hermeneutics of the research process and models or findings which emerge. Such a move would also act to address the inappropriate language used in academic publishing.

When framed as containing both structural and agentic barriers then the means to close the gap will need to address both components. An argument supported by Vermeulen (2005) who articulated the argument that whilst incentivising research that valued relevance, or structural change, was a necessary precondition to addressing the relevance gap not enough on its own and that and that cultural or agentic change would also be needed. Indeed Ferguson (2005) argues that structural barriers such as institutional or communication, are easier to overcome than cultural or philosophical (epistemic) differences. Hughes (2011) also reflects on the lack of consensus between academics on working with practice, an observation which endorses the fragmented epistemic essentialism outlined by Becher(1989) earlier in which epistemological barriers inhibit levels of engagement that would address the gap, in a situation of such paradigmatic conflict, revisions to institutional incentives to motivate scholars to address and engage with practice may not sufficiently address the gap (Deadrick, 2007). McNatt (2010)

puts it more forcefully by asserting that structural actions have not sufficiently closed that gap (p9) and that (p11) *"no permanent meaningful change will ever take place because the recommendations don't address the root of the problem: differing paradigms".* He goes on to argue that in the absence of reward, reinforcement theory predicts that despite desire, the gap will go unfulfilled.

Business schools have been accused of just muddling through the dilemma of addressing the TP gap (Ivory 2006, Starkey, 2004) as well as issues of engagement and addressing instrumental versus extrinsic arguments and we see a number of fragmented solutions to the TP gap issue variously addressing structural or cultural gaps. However models for the design of business schools which recognise a divergent range of solutions allowing schools to emphasis knowledge production in a manner which reflects their various academic aspirations and develop a clearer identify and values have been proposed.

In terms of discreet models two principle groups of typologies emerge from the literature these are from Ivory (2006) and Ferlie (2008). The figure below shows the structure of these typologies

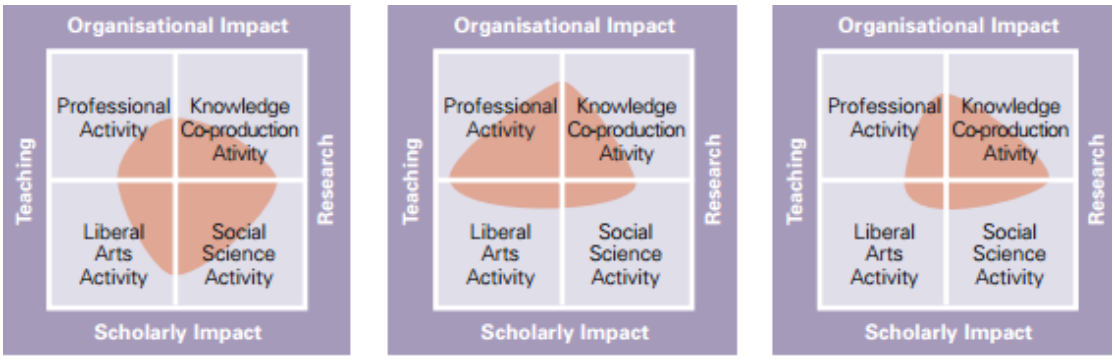
Figure 4 Models of Business School Design

Diagram removed for reasons of copywright

From Ivory (2006)	From Ferlie (2008)
IVORY, C., MISKELL, P., SHIPTON, H., WHITE, A. & MOESLIN, K. 2006. UK *Business Schools: Historical Contexts and Future Scenarios*. Advanced Institute of Management Research, P16	FERLIE, McGivern, G & De Moraes, A, Developing a Public Interest School of Management, Rolyal Holloway University of London, Working Paper Series, SoMWP-0804

There are similarities between the models and it is not expected that any one model will dictate the perspective of business faculty but is more likely to be

the dominant model but with scope for others to contribute and reflect the interests of the faculty and academics as Ivory (ibid) shows below
Drawing on the work of Starkey and Tiratsu, Ivory (2006) propose a model based around the dichotomies that reflect the conflicts within the business school paradigm, shown below between teaching and research and between organisational and scholarly impact. But the faculty models that emerge are similar to Ferlie's



Ivory (2006)

Looking first at the professional school model (Bennis and O'Toole, 2005, Ivory et a, 2006, McNatt, 2010). This model is similar to the medical or law school approach (Pfeffer and Fong, 2004) and has as its main goal the development of professional practice throughout the career lifecycle of its alumni. Other models proposed include a stream of argument outlining a public interest model (Pettigrew, 2001, Pfeffer and Fong, 2002) or the liberal arts model above (Ivory et al, 2006). Ferlie (2008) describes this model as similar to the professional model but more orientated toward broader issues of public interest and whilst strongly engaged with business and indeed taking endowment from it, but still able to provide a critical outsider perspective on issues of public good in management practice. A third perspective is that of 'Agora' (Starkey, 2008, 2007) Similar to Ivory's 'knowledge economy typology this model adopts a postmodern mode 2 language of practice in which the academy loses its claim to knowledge authority adopting instead a polycentric open space or 'agora' in which a variety of stakeholders can join in dialogue and the business school becomes a knowledge broker. Finally we have a critical school model (Grey, 2004). Here Grey sees the business school as

shaped by conflicting political and social agendas and broadly unchanged from the current model. Such a model reflects the agentic issues which underpin arguments seen earlier concerning epistemic essentialism (Trowler, 2008) and the pre paradigmatic nature of the business school (Tight, 1988, Macfarlane, 1998, O'Hear, 1998, Becher, 1989) but leaves the business school with an indeterminate and conflicted identity characterised as muddling through by Starkey et al (2004), or as schizophrenic by Crainer and Dearlove (1999).

In summary we see that the theory practice gap is a substantial issue in both scope and complexity but can be summarised as underpinned by structural (perverse) incentives and variously as paradigmatic, cultural or agentic differences. Such agentic gaps will give expression to epistemic differences between the groups a point made by a number of researchers. Much of the literature on closing the gaps addresses the structural issues and the incentives which shape academic behaviour. Fewer address the fundamental issue of any epistemic gap between the two groups. Addressing structural issues alone may not be sufficient to close the gap and even moves to incentivise more collaboration or engagement between the groups may be problematic in the face of foundational differences in epistemology or as Simon (1976) suggests, left to themselves separate tribes will separate as do oil and water

So whilst the issue of epistemic gaps is address in the literature little evidence based on actual measurement of any such gap appears in the literature. The following original research addresses that space and aims to identify a factor analytic structure for marketing knowledge between academics and practitioners and identify different views between the groups in respect of the factor structure identified.

Chapter 3 Research Philosophy and Methodology

The following section explains and justifies the methodological decisions made.

3.1 The Importance of personal epistemology

The aim of the research is to identify whether an epistemic gap exists between practitioners and academics. If such exists then it will be suggestive that it is contributory to the root of the theory practice gap which the earlier literature review discusses in detail. As such two primary research goals obtain

1 To identify the dimensions of personal epistemology that obtain between marketing practitioners and academics

2 To examine whether differences in views with respect to these dimensions exist between the two groups

That beliefs and epistemic values are central to views on knowledge is argued strongly by many academics. Reybold (2002) puts this view strongly suggesting that "personal epistemology is more than a framework for knowing and understanding reality, epistemic assumptions cultivate corresponding behaviours and actions; individuals *way "of knowing" predispose a way of being"* (italics in original) or as Hofer (2004) puts it "*beliefs influence learning*". Equally education itself affects epistemological development through linkage to the employment of higher-order thinking in personal and academic situations (Bendixen, 2003, Hofer, 1997, 2002, 1999, Schommer-Ailens, 2002). Epistemic thinking is also related to more than just educational learning, but is a significant component to lifelong learning in terms of how people evaluate new knowledge or resolve competing knowledge claims and hence strongly appears to address the inherent nature of the theory practice gap in business. Fundamentally, using Hofer's argument (Hofer, 2001) in her paper on the implications of epistemic values on teaching and learning, epistemology is a context dependent influence which acts to shape people's

views on how knowledge is viewed and used. Without going too deeply into Hofer's argument she suggests that the act of education itself influences meta-cognitive or meta-knowing approaches to learning and knowledge construction. Furthermore emergent work on discipline based knowledge and knowing suggests that epistemic differences are tangible, they also help define the discipline and the differences increase as expertise develops (Donald, 1990, Schoenfeld, 1992, Hofer, 2001). This suggests that elements of difference are influenced by an education process but that such shaping may or may not be appropriate for differing contexts of practice. For such reason exploring whether different epistemic values exist between academics and practitioners becomes important in allowing for academic reflection on the nature of the epistemology they wish to represent in the educational process.

Figure 5 Working model of how epistemological theories influence classroom learning (Hofer, 2001, p372)

Diagram removed for reasons of copywright

Research on epistemological beliefs indicates that they underpin beliefs about the value of knowledge. Much of the divide between theory and practice is reflected in different views on knowledge and hence the basis of the gap can be framed as epistemic. The literature mainly addresses the issues through a series of argued frameworks, including tacit and explicit knowledge, knowledge creation, social or agentic gaps or simply gap brought about by

academics needs for validity in research rather than application. Few if any studies have attempted to identify whether a significant epistemic gap exist between practitioners and academics. Partly perhaps because epistemological views are difficult to measure, few studies have attempted to address this proposal in an structured statistical manner. However in the last decade several measures of epistemic belief have emerged and been used by a number of researchers to evaluate the effect of epistemic belief on some other agent. For example Bell (2006) looked at epistemological beliefs and learning achievement and Sitoe (1995) examined epistemological beliefs and perceptions of education. In my case I am interested in whether academics and practitioners share or diverge in their fundamental epistemological outlook and on what factors of that outlook they may share or diverge on. In all the cases mentioned and others measurement of epistemic belief has been achieved through the use of standard measuring instrument.

3.1.1 The Significance of Personal Epistemology

Personal epistemology is the study of personal beliefs concerning the source and justification of personal knowing and the study of personal conceptions of knowledge and knowledge acquisition and how such beliefs are used to understand the world (Hofer, 2000, 2002, 2004). Epistemic beliefs underpin professional behaviour, learning and views on the value of different knowledge paradigms. Yet few studies have attempted to understand the differences in personal epistemology between discipline practitioners and academics. Modelling the epistemic belief structures in the two camps to identifying whether structural differences exist will if differences are present provide some explanation for the prevalence of the theory practice gap.

The issue concerns the determination of domain specific epistemic views. In the remainder of this section I will describe the main approaches to understanding and measuring personal epistemology.

3.1.1.1 CLEV' – Perry's Checklist of Educational Views

The first modern research into the measurement of epistemic values was done by Perry (1970) whose original conjecture was that personality differences might account for differences in belief about knowledge. In particular he theorised that students views on knowledge began as 'simple', based on academic authority and 'certain'. Using a quantitative scale, what he found instead was a framework for the development of personal epistemology based on an educational journey involving an evolving capacity for intellectual development based around the students journey through education (Hofer, 2002) and he suggested that students' progress through nine positions summarised in four clusters described as dualism, multiplism, relativism and commitment. These stages reflect beliefs about meaning in different stages of development in an evolving process moving toward a greater understanding of complexity based on interaction between person and environment (Sanford, 1969) until their epistemic stance is that knowledge is tentative and complex and derived from reason and empirical evidence. Other researchers followed Perry's uni-dimensional model. For example the Reflective Judgement Model of Kitchener and King (Kitchener, 1981) held that learners moved from an initial point of absolute belief in concrete knowledge, justified by authority to a final position juncture of context-dependent and tentative knowledge, justified by reasoning and expertise.

Uni-dimensional approaches like Perry's have been the subject of criticism as the scholarship of personal epistemology has developed (Hofer, 2002). Postmodern development has seen the subject become both varied and more complex and it is argued that uni-dimensional approaches cannot sufficiently describe the nature of personal epistemologies (Bell, 2006). The main strand of postmodern criticism argues that knowledge has to be understood as contextual and situated in authentic activities related to a specific practice or discipline (McLellan, 1996). In effect this sees knowledge in terms of use-in-context. We have already encountered such arguments in terms of explicit versus tacit knowledge, through Dewey's experiential knowledge, Nonaka's knowledge creation and transfer, through the critique of textbook knowledge

or mode1 and 2 knowledge and through the criticisms of researchers trying to explain the TP gap in business through a number of strands including lack of context, relevance or cultural and social divisions.

As a counter to Perry's scheme, Schommer (1990) put forward a scheme based on a system of independent beliefs using a Likert style questionnaire of 63 items. As opposed to Perry's scheme Schommers scheme suggested that epistemological beliefs were a set of independent beliefs comprising five factors that may or not develop synchronously (Duell and Schommer-Aikins, 2001). That is, individuals may believe that knowledge is certain but also tentative and subject to empirical evidence at the same time. Such beliefs may be more or less independent".

3.1.1.2 Schommer's epistemological questionnaire (EQ)

Schommer' EQ is one of the most widely used instruments to examine epistemic belief and is utilised in the USA and elsewhere and for diverse purposes.
Based on twelve subsets and 63 items, the EQ tests for five dimensions –

- simple knowledge
- certain knowledge
- omniscient authority
- innate ability
- quick learning

Someone holding all five beliefs (Hofer, 2002) would largely believe–

- knowledge is simple clear and specific
- knowledge resides in authority and is therefore not changing
- concepts are learned quickly or not at all
- learning ability is innate

It has been widely validated and used in modified form to examine epistemic belief structures in different circumstances. A revision of the EQ was

developed by Jeng et al (1993) and which was subject to confirmatory factor analysis. Although the researchers reported that the model supported a multi-dimensional system of epistemic belief, no factor analysis results showing strength of fit were produced However the instrument was used to compare the views of students from different disciplines and found that students from arts and social science compared to business and engineering students, believe that knowledge is uncertain and best obtained from independent reasoning, which is a good example of the methods ability to distinguish epistemic belief between groups. The EQ has been both validated and criticised. Some researchers have been unable to extract all the factors Schommer identified and there are arguments about whether epistemic belief is domain independent as with the EQ or domain specific.

3.1.1.3 Epistemic Belief Inventory (EBI)

This version of Schommers instrument, produced by Schraw, Bendixen and Dunkle (2002), successfully replicated Schommer's five dimensions and yielded better construct validity. The authors concluded that epistemic beliefs were not related to performance on well-defined tasks but on ill-defined ones, speculatively like the ones faced by practitioners.

3.1.1.4 The DEBQ - Hofers' discipline-focused epistemological questionnaire

Trowler (2008) and Becher (1989) in the argument referred to earlier about the influence of academic tribes put forward the notion that knowledge conceptualisation and its implementation in practice is shaped by the influences of domain specific epistemology and the phenomenological social environment in which it is practiced. This reflects the debate on the balance between general epistemic beliefs and discipline specific beliefs.

The elements that constitute theories of personal epistemology are made explicit in some models (Baxter-Magolda, 1992, Hofer, 2000) but are

inferential in others (Perry, 1970). Hofer (2000) summarises the dimensions of personal epistemology that emerge from research into two main areas –

1 the nature of knowledge
2 the nature or process of knowing

Within these two dimensions Hofer and Pintrich (1997) suggested a model of four dimensions shown and defined below –

Table 3 Hofer and Pintrich's 4 dimensional model of knowledge

Nature of knowledge What we believe knowledge is	Nature or process of knowing How we come to know
• certainty of knowledge *(Knowledge is viewed as absolute or contextual*)	• source of knowledge *(Knowledge is handed down by external authority or constructed by individuals)*
• simplicity of knowledge *(Knowledge is viewed as an accumulation of facts or as highly interrelated concepts)*	• justification of knowledge *(Individuals move through a continuum of dualistic beliefs to the multiplistic acceptance of opinions to reasoned justification)*

Addressing domain specificity Hofer (2000) developed the Domain specific Epistemological Beliefs Questionnaire (DEBQ). Utilising aspects of both Perry's and Schommer's scheme the instrument found four factors with meaningful extraction after varimax rotation. These supported and extended Hofer's summary above and were –

- certain/simple knowledge
- justification for knowing
- source of knowledge
- attainability of truth

Two further factors emerged with narrow definitions justification for knowing, contained *personal*, which reflected justification from opinion or experience and *source authority* which refers to texts book knowledge or expert and external knowledge as source for authority (Teng, 2010)

3.1.1.5 Other scales and overlapping definitions

Wilkinson and Migotsky (1993) identified 7 epistemological styles measured by 5 separate instruments. The outcomes of four instruments are shown below (three were omitted as the research was too exploratory).

Table 4 Wilkinson's Epistemological Assessment Measures including Scales and Definitions

Epistemological assessment measures	
Measure and subscale	Scale definition
Scale of Intellectual development (SID Erwin 1981)	
Dualism	Knowledge equals facts, these facts being stable and absolute
Relativism	Knowledge is context dependent and there are no absolutes
Rationalism	Knowledge is obtained through logical, conceptual and analytical thinking
|Psycho-Epistemological Profile (PEP, Royce & Mos, 1980	
Empiricism	Knowledge is born from structured observations and data
Metaphorism	Knowledge is subjective, true knowledge is personal, , involving integration and use of symbols

Attitudes About Reality (Unger, draper and Pendergrass, 1986)	
Logical Positivism	Knowledge is stable and irreversible and beyond our control
Social Constructivism	Knowledge is dynamic and context dependent
Feeling and Thinking, T-F, Gold & Reimer, 1974)	
Thinking	Knowledge is the result of logic and intellectual reasoning
Feeling	Knowledge is defined through feelings, emotion and effect

Wilkinson conjectured that there was potential overlap in meanings between the styles, in particular suggesting that the dualism and logical positivism scales overlapped.

Subjecting these scales to factor analysis they identified 3 significant factors which they labelled –

- Naïve realism – causal factors of events are facts which can be leaned
- Logical enquiry – means of acquiring knowledge rather than factual outcomes
- Sceptical subjectivism

-

The items underpinning each factor are shown at appendix 4

Vaara (1999) identified five significant epistemological issues which they argued contained the typologies already identified. These were -

- Universalism versus contextualisation

- Conception of causality
- Conceptualizations and narrative rationality
- Relation of scientific knowledge and practice
- Value laden nature of knowledge and ethical implications of research

Table 5 below identifies potential overlaps with the definitions listed by Wilkinson –

Table 5 Potential overlapping dimensions across the main epistemic models

Scale definitions combined						
SID Erwin	(PEP, Royce	AAR, Unger	T-F, Gold	Vaara	Wilkinson's combined factors	Hofers DEBQ
Dualism	Empiricism	Logical Positivism	Thinking	Universalism,	Naïve realism	certain/simple knowledge
Relativism	Metaphorism	Social Constructivism	Feeling	Contextualisation, Conceptualizations and narrative rationality, Value laden nature of knowledge	Sceptical subjectivism	justification for knowing Source of knowledge
Rationalism				Conception of causality, Relation of scientific knowledge and practice	Logical enquiry	Attainability of truth

3.1.2 Critical Reflection of epistemological issues in Management Studies

Despite examples of interest in the epistemic issues inherent in the study and practice of business for example Hackley (1999a), Aram J and Salipante Jr,

(2003), Cunningham, (1999a), Macfarlane, (1998), Reed, (2009), little work has been done on the existence of different epistemic values between practitioners and academics and their influence on the TP gap. The character of business school teaching in which de-contextualised, abstract, law like generalisations are valued without reference to the capacity of such to influence management practice in a positive fashion is challenged but mainly in terms of the influence of dichotomies. Investigations into the factor structures of epistemic views are more common in studies in educational or social settings (Hofer, 2000, Schraw, 2002, Jehng, 1993, Schommer, 1990 Schommer-Aikins, 2006).

3.1.3 Summary and argument for selection of instrument

The most extensively cited instrument is Schommer's EQ which has been widely used with HE and school students, although there have been criticisms of construct validity (Hofer, 1997, 2001, DeBacker, 2008). The EBI although yielding better internal coefficients of consistency than EQ (Ibid) still has lower internal consistency than desirable in the case of some subscales.

A more context specific instrument like Hofer's DEBQ may yield higher internal consistency (ibid) and Schommer argued that domain specific beliefs should increase in importance as the individual progresses (Schommer-Ailens, 2002), again emphasising Hofer's instrument. As students move from academe to practice and become embedded in applied ways of knowing they begin to develop domain-specific epistemic beliefs (Schommer-Aikens, 2006). Hofer's instrument was also more practical to tailor to an adult academic and practice population in marketing roles. Other instruments were more oriented to students.

Palmer (2008) and Khine (2008), showed strong evidence for domain specific epistemologies between social science and engineering students and hypothesized that the nature of the domain, (hard-soft, pure-applied), had an influence on epistemic beliefs but found that instructional contexts and pedagogical method had a stronger influence on student values than

discipline domains. The subject of domains are themselves a complex and evolving debate with Hofer suggesting (Hofer, 2006) that 'discipline' be substituted for domain where that is the area under scrutiny and to even consider the distinction domain as academic discipline vs. judgement domains. However some researchers have melded questions from different instruments without apparent concern over the domain specific versus general nature of the instruments.

The domain specific nature of Hofer's DEBQ instrument has clear benefits. If domains affect epistemic views as is likely from a number of perspectives already explored then differences between academics and practitioners should be more obvious with a domain specific measure than with a general measure. The instrument has a track record in analysing epistemic views in practice situations (Teng, 2010) and DeBacker et al (2008) reported that domain general instruments had problems of internal consistency.

3.2 Research Philosophy-

This section reviews the underpinning philosophical influences on the ontological and epistemic approaches taken and presents the arguments for the adoption of the research philosophy used.

3.2.1 Interpretivism versus Positivism

Ontologically my approach suggests realist ontology. This is an empirical approach in which the discovery and explanation of regularities can be explained using generalisable conclusions. This ontological approach encompasses the two distinct paradigms of interpretivism and positivism. As Niehave's (2007) argues quoting Weber (2004), both assume that a 'real world' exists, external to human cognition.

We can see how the two paradigms can be used together by reflecting on their epistemological assumptions as shown below in table 10 below

Table 6 Niehaves and Stahl's Analysis of the Epistemological Assumptions of Interpretivism and Positivism (Niehaves, 2006)

		Epistemological Position	
		Objective cognition is impossible (constructivism)	Objective cognition is possible (epistemological realism)
Ontological position	A real world is existent (ontological realism)	Interpretivism	Positivism
	No real world is exists (ontological idealism)	Interpretivism	

The seeming conflict between the two paradigms (positivism and interpretivsm) is resolved via post positivist epistemological or methodological pluralism (Wildemuth, 1993, Niehaves, 2007). Such resolution argues that no single paradigm may be sufficient but that instead method should reflect the nature of the problem.

This argument is further supported by Hyde (2000). Here Hyde argues that adding a deductive approach to an interpretive study would be appropriate when

a) the concepts to be studied are clear from the outset
b) Hypothesised relationships between them can be stated prior to data collection.

In this study both conditions are satisfied

The research question addresses the issue of two different cultures and their attendant epistemic value differences being the basis for the theory practice gap. Such an issue is first understood via an interpretive analysis of literature,

(Becher, 1989, 2006, O'Hear, 1998, Trowler, 2008) which identifies a strong argument for the existence and causes of the gap. Assuming a 'real world' of measureable epistemic values exists, an ontological realism requires positivism to measure this. However such differences and any constructs that emerge during measurement are themselves contingent of the social situation of the participants and hence have to be understood using an interpretivist paradigm. Hence my adoption of a post-positivist, pluralistic methodology, combining positivism and interpretivism based on their common ontological position as argued by Neihaves (op cit).

Based on an ontological realism amalgamating the interpretivist and positivist paradigms allows the research subject to be addressed using the strengths of positivism, that is identifying statistical regularities in behaviour (Wildemuth, 1993) an approach based on testing via structured positivist research instrument using quantitative data but using interpretivism to inductively develop a generalisable theory using on an interpretive stance.

Hence my approach will be a cross sectional survey to explore whether two different groups hold different epistemic beliefs, using a validated, structured data collection instrument. This questionnaire, Hofer's DEBQ, will produce a set of factors for the sample – academics and practitioners. And this represents the use of a positivist approach. However the interpretation of these factors is deeply interpretive. Factor analysis produces a number of intercorrelated items (each item is a single question) and each group of such items forms a factor. The interpretation of these factors is deeply inductive and involves interpreting the collective meaning of the items loading on each factor (Williams, 2010). Whilst it is likely that the personal epistemologies of respondents are social constructs within a constructivist paradigm, this does not prevent exploration using a positivist method. However analysis of findings using an inductive approach to identify social constructs implies a constructivist epistemology and interpretivist paradigm. Hence the overall approach reflects a positivist paradigm research instrument but with a factor analytic analysis using an inductive interpretive framework to identify the underlying social constructs which create the individual epistemic

underpinnings of practitioners and academics. Such an amalgamation of research paradigms is acceptable in a modernist pluralist epistemic approach.

In summary such pluralism reflects an underlying ontological pragmatism or realism. The epistemologies described are “philosophically distinct” but in practice such precise distinctions are not always observed (Yin, 2002, Clarke, 1972). The situation with respect to epistemological bases is not prescriptive and disagreement exists concerning their divergent nature and the extent to which they can be integrated (Myers, 1997)

It seems clear therefore that to address issues of rigour in identifying via factor analysis the underlying epistemic standpoints held by two groups and validity by examining them in the context of those groups requires a pluralistic approach combining positivism and interpretivism. At an ontological level this approach recognises a dualism between the nominalist view (thoughts about objects are only words as there is no independently verifiable ‘object’ external to the knower) and the realist view (holds that external objects exist independently of the knower. Realism can establish factor analytic measures of underlying epistemologies but it requires a nominalist view to explain findings as contingent social constructs

The next section discusses the implications of this pluralism in respect of inductive and deductive reasoning

3.2.2 Inductive versus Deductive Analysis

Cohen et al (2008) describes three types of reasoning – deductive, inductive and combined inductive-deductive. Traditionally deductive reasoning is associated with positivism and inductive with interpretivism. But in reality the situation is less clear cut and the approaches are not necessarily mutually exclusive (Gray, 2009)

Whilst there is extensive literature’ examining the theory practice divide and on culturally mediated differences in epistemic outlook, such material would

have allowed a purely deductive design to be formulated but it has not been expressly applied in this situation. Pure deduction would not have been entirely appropriate in the absence of a clearly testable theory. An inductive approach, using some tools associated with positivism but generating a theoretical explanation for difference is a more secure method.

A purely hypothetico-deductive approach emphasises 'universal laws of cause and effect (Henwood, 1993). But in this study as the literature shows no universal laws exist showing the effect of epistemic stance on the theory-practice gap. Such a relationship is in any case contingent as shown on membership of cultural groups. And the epistemic positions of such groups are themselves the subject of change and evolution. However as Ali (1998) shows a purely inductive approach would avoid a theory testing approach so avoiding closing off lines of enquiry. But as Ali's and Birley's paper argues, quoting Eisenhardt (1989), using constructs from theory and the relationships between them as an 'a priory' specification can help shape the inductive research design.

This study adopts that approach. A model of the theory-practice gap based on epistemically underpinned cultural differences has been developed from prior theory. The research aims to identify the epistemic constructs underpinning the gap using Hofer's DEBQ instrument. Such an approach integrates inductive and deductive methods and that is the position adopted in this research. However as Ali argues research approaches fall along a continuum between extreme deduction and extreme induction.

3.2.2.1Summary

This research whilst essentially exploratory theory building and is largely inductive. But through the use of a structured research instrument based on identifying constructs and the use of prior theory to legitimise the identification of constructs' as a way of explaining differing behaviours between groups, the research has elements of a deductive approach. In effect the overall approach is pluralistic.

3.3 Research Strategy

The overall research strategy is to identify a set of epistemic factors common to the whole sample. Their identification provides an understanding of the overall epistemic identity for marketers be they academics or practitioners The next step in identifying whether there is an epistemic gap between the two groups will be to compare means for each factor between the two groups. Any significant differences here will suggest that each group whilst sharing a common epistemic underpinning, views some or more of these epistemic factors differently. In other words they will have separate epistemic perspectives on key epistemic factors. Such a finding would be critically important in establishing that each group whilst sharing a common set of epistemic values may have different views on the nature of those values.

3.3.1 Justification for strategy adopted.

The analytical method underpinning the identification of any factors that emerge is based on the use of a Likert scale instrument – Hofer's DEBQ. Analysis of such instruments has seen discussion about the method of analysis used. The issue revolves around the nature of the data produced by such scales and the issue has provoked comment in the academic literature. The key issue involved in the debate revolves around the treatment of Likert data as ordinal or interval data.

The issue of how to analyse a Likert scale seems to cause some confusion. Likert scales are in some literature shown as ordinal in nature and analysed in accordance with this. But this is by no means a consistent treatment and there is considerable literature arguing that it is common to treat them as producing interval data and indeed Brown (2011) says that most of the research in his field treats them as interval scales. For example Brown (ibid) argues that Likert scales can be effectively analysed as interval scales. In particular he argues that Likert scales when summed from several Likert questions should be treated as interval scales. In one way, Browns argument is subtle and significant for my treatment. Brown argues that where Likert

items are treated as individual items (questions) then ordinal treatment is usual. But where the items are summed into groups of questions to examine the group as an attribute or factor then the data assumes the characteristic of intervalness and should be treated as interval data. This argument is upheld by Boone (2010) who effectively makes the same argument. Both authors then cite appropriate measures as – means, Pearson's correlation, ANOVA and factor analysis. Some positions are clearer, for example, Crawford (1997), simply shows Likert scales as being interval scales.

The argument appears has proponents on both sides. However guidance from San Diego State University provides the following -

"When responses to several Likert items are summed, they may be treated as interval data measuring a latent variable. If the summed responses are normally distributed, parametric statistical tests such as the analysis of variance can be applied"

Hence the strategy for analysis is to –

1 Carry out reliability measures to determine the shape and distribution of the data underpinning each factor to establish the best way for subsequent analysis

2 Carry out a factor analysis to identify the underlying factor structure of the sample as a whole

3 Test for differences between the two groups against each factor. Any differences here will indicate an epistemic gap between the two groups

4 The final analysis will be an investigation of any correlation between epistemic factors and any explanatory factors identified

3.3.2 Sample

The population of inference under examination is marketing practitioners and marketing academics. In particular and for precision the target practice population under examination is professional marketers in particular named as marketing managers/directors. Such job titles are core marketing roles. Academic job titles are academics teaching marketing management or strategy. In particular I am seeking to avoid intermediary related roles such as advertising or PR roles or academics involved in teaching tertiary subjects like tourism, sales or communications. Such criteria also control the population under examination and controls for academic and practice populations teaching or practicing in similar areas. Expanding the populations under examination in subsequent research is a useful goal but in this first exploratory study of epistemic gaps, controlling for similarity between academic and practice subject areas is a reasonable aim. The ONS does publish figures for the population size of marketing jobs but the data includes 'sales' roles as well as non-core marketing roles. The broadness of the ONS data renders estimates of population size from this source unproductive. Furthermore no controls for company size are used. In particular small or micro sized companies may conflate marketing and sales titles and use marketing titles to describe a mainly sales role. The CIM claims a membership of 40,000 but this figure may be less practical than it appears as it includes overseas and student membership. Another concern is the possibility that the membership is skewed towards junior marketing positions. Overall no inclusive sample frame of the population is available

Population size is therefore difficult to identify with precision. Outside ONS data commercial data from list management companies provide researched lists of marketing personal which are controllable by a number of criteria including job title and company size. Hence the sample frames used are based on commercial lists. These are regularly cleansed to remove nils, duplications and missing units and provide a useable solution to finding a representative sampling frame. This provides an accessible and representative sample frame for the population under scrutiny. Practical

restrictions on resources precluded using mail. However e mail lists are drawn from the total population of marketing job titles and are representative of the practice population.

The practice population sampling frame was drawn from a mainstream mailing house who have extensive experience in list research and maintenance and is used by a number of mainstream UK companies. The company has an active list of marketing professionals of 28841 records. After applying controls on job title, company size (over 50 employees) and opt-in e mail address the sample frame count reduced to 5367. The Academic population was drawn from a commercial list of academics and was controlled for universities only (excluding FE and non-degree institutions) and teaching area. The total sample frame count for academics teaching marketing management or strategy in universities was 1219. There are separate counts for other academic marketing disciplines but these were excluded to maintain a like for like population between academy and practice. Resource constraints also put a limit on the size of the population that could be examined. Each sample frame was emailed completely.

327 usable responses were obtained with a split of 97 academics and 219 practitioners. The aim of this distribution was to obtain a large enough sample to provide significance in findings. This leads to consideration of coverage error or any difference between the population of inference and the sample frame population. Steps were taken to minimise such error. Population criteria remained constant and the population of inference sample frame was reduced to the sample frame population only through the addition of an opt in email filter. This aimed to ensure that the sample frame was representative of the population to minimise frame coverage bias and sampling error.

Selection bias due to participant self-selection on the basis of some special interest is a risk and it is possible that an email based frame based on opt in contains some non-apparent bias related to willingness to opt in (Fricker and Ronald, 2006) but there is no evidence to support this in this study. Effectively the sample strategy is purposive non-probability sampling. There

are advantages and disadvantages in using such a methods and as Tongco (2007) argues, non-probability methods can be just as good as probability ones in some situations. Zeidlitch (1962) points out that use of random sampling without consideration of alternative non-random methods may be inefficient (p154). Indeed the appropriate use of purposive sampling can be more efficient in field situations (Bernard, 2002,) and its principle advantages relate to the absence of a usable sampling frame, time and cost implications (Laerd, 2012). The key issue is transparency and clarity which allows the reader to validate the representativeness of the sample. Providing the sample is representative then statistical analysis can provide unbiased inferential statistics when based on purposive samples (Stutzman 2009, Tongco M., 2007). Any subsequent generalisation based on statistical analysis is based on a test of robustness of the sample and as Stutzman argues, many models based on purposive sample are robust enough for generalisation. A view upheld by Statistic Canada (2014) and Doherty (1994) who shows that a number of major surveys of business use purposive designs. The Technical Expert Group of the European Central Bank (2013) and U.S. Office of Management and Budget (2006) point out that non-random samples are commonly used and are acceptable if justified. Guarte (2006) showed that purposive samples can produce reliable statistical results even in heterogeneous populations. Whilst Tongco (op cit) describes the use of non-probability samples for factor analytic studies and also studies using ANOVA, chis square, univariate and cross tabulation. The argument is summed up in Baker et al (AAPOR, 2013) who point out that it is not axiomatic that probability samples produce valid reliable results and that non probability samples can produce results as good as or better than probability samples (p13). The report suggests the issue is that the validity of inference drawn from non-probability samples relies on the appropriateness of the assumptions underpinning the samples use. In this case this is the representativeness of the sample but also the distribution of the results which was examined in the results section and found to be approximately normal.

Respondents self-selected themselves or choose to opt in. This method does have potential threats. For example self-selection bias and non-response can

call the representativeness of subsequent results into question. However it is a pragmatic technique and self-selection methods do not invalidate findings (AAPOR et al, 2013). However it is acknowledged that self-selection bias in non-probability samples does create the risk to the reliability of inferences drawn from findings. The issue is one of balance and care in ensuring the sample drawn is as representative as possible.

Sample sizes for factor analysis are somewhat disputed between authors (Pallant, 2007). Costello and Osborne (2005) report that prescribed rules for factor analysis are not apparent but that *a priori* rule of thumb is a ratio of 10:1 subject to item. Others have recommended a ratio of 5 subjects to item (Gorsuch, 1983) with a minimum of 100 subjects, whilst Linguard (2012) reported that N should be at least 200. Comrey and Lee (2012) reported broad guidelines as 100=poor, 200=fair, 300 = good and 500 = very good, to a minimum of 10 subjects per item (Everitt, 1975). Hair (2010, p102) summarises the general rule of thumb indicating a minimum ration of 5:1 of cases to variables, although a ratio of 10:1 is more acceptable. This provides for a sample size in the range of 165 – 330 in this study.

The overall response rate was 4.9% or 7.9% for academics and 4.1% practitioners. A major issue for all surveys is response rate but especially online for online surveys where response rates are typically lower than paper methods (Archer, 2008), with some reports suggesting on overage 11% below mail and phone with some rates as low as 2% being reported (Petchenik 2011).

This raises the issue of non-response bias. As a general rule higher levels of response rates are required to minimise the effect of non-response bias. But there are practical considerations such as survey cost or the availability of comprehensive sampling frames which provide practical limits on methods available. Overall as Groves (2006) argues low response is not itself evidence of low response bias and it is important to identify evidence for non-response bias. Another issue is levels of response between groups. Here academic response rates are higher than practitioners. But work by Curtin, et

al (2005) and others (Groves et al, 2004, Merkle and Edleman 2002) all challenge the argument that decreases in response rates lead automatically to increases in non-response bias. In addition Groves points out that while non-response bias does occur, the non-response rate of individual surveys is not a good predicator of its extent and concludes by stating that "*non response rate alone is a weak predictor of non-response bias components*" Indeed Groves points out that reducing non-response in a non-representative way can increase bias and concludes that it is only the risk of non-response bias that is reduced by increasing response rates which of themselves do not reduce o. Groves continues by observing that there is "*no strong empirical relationship between response rates and non-response bias*" (p663) Overall it is the representativeness of the sample that counts as well as sample size (Stat Trek, 2014). The sample frame used here, by using a verified researched list of active practitioners and academics engaged in mainstream marketing activities, aims to draw a frame which is representative of the larger population. Hence whilst response rates are low which increases the risk of non-response bias this is not an axiomatic outcome and is balanced by the large sample of 327 obtained.

The issues of non-response bias relates to the distinctiveness of non-respondents Curtin et al (2004) or as Olson (2006) puts it, the characteristics of the achieved sample and there is no evidence to suggest that such non respondents here are distinctive and the achieved sample was designed to represent the population of inference. However it is an issue that subsequent research should address.

3.3.3 The Research Instrument

A cross sectional survey was employed to identify, using factor analysis, the epistemic belief structures of marketing academics and practitioners. This will identify the underlying value structure of their respective underlying epistemologies. Hofer's self-completion DEBQ instrument was distributed via email and was located on Qualltrix at https://qtrial.qualtrics.com/SE/?SID=SV_6EhvSnsROrEGc7y

The invitation to participate is shown at appendix 2

3.3.3.1 Tailoring the Research Instrument

This study adopted the self-completion domain specific epistemological beliefs questionnaire (DEBQ) developed by Hofer (2000). Based on the model developed by Hofer and Pintrich (1997) the instrument identifies four assumed factors – certainty, simplicity, source of knowledge and justification for knowing. Studies of personal epistemology show that these beliefs exert a substantial influence over learning and learning outcomes as well as shaping learners' metacognitive and cognitive processes (Chai et al, 2006)

The instrument originally used 27 items and a 5 point scale. Evaluation using exploratory factor analysis across two specific domains, science and psychology students revealed, against extracted factors the Cronbach alpa scores shown below

Table 7 Factor labels and Reliability scores for the DEBQ

Factors	Cronbach alpha scores	No items
Certain/simple knowledge	.74 psy .81 sci	8
Justification for knowing	.56 psy .61 sci	4
Source of knowledge: authority	.51 psy .64 sci	4
Attainability of truth	.60 psy .75 sci	2

Classification questions based on age and gender were included. Levels of expertise were also measured to identify whether epistemic beliefs changed in line with this factor.

To distinguish between academics with some or extensive practice experience which may influence their epistemic beliefs descriptive questions were addressed as follows.

Table 8 Level of Experience

Extent of practice experience	Signifier
No practice experience	Little if any responsibility for designing and implementing marketing programmes
Limited practice experience	Some experience of designing small scale marketing communication programmes with a limited budget and limited program importance
Extensive practice experience	Extensive experience of designing and implementing large marketing campaigns, with major budge responsibility and with a high level of importance to the organisation

Practitioner levels of experience were taken as signifier of ‘practitioner orientation’

Table 9 Level of practitioner experience and highest level of responsibility

Practitioner experience	Highest level of responsibility
Up to 5 years	Marketing director/ Account Director
6 years to 10 years	Marketing manager/ Account Manager
Over 10 years	Product/brand manager
	Marketing executive/

To explore the epistemic belief structures of academics and marketing practitioner’s additional questions were added to reflect the dichotomous epistemological issues identified earlier and to provide an opportunity for

explanatory factors to emerge. This involved seven additional questions addressing dialogue and involvement in practice –

How likely are you to seek marketing advice on an applied practice problem from an academic (1)
How likely are you to seek advice from a text book on an applied marketing problem (2)
How likely are you to seek advice from a practice marketer to an applied marketing problem (3)
How likely are you consult an applied practice book on marketing to solve a real-world problem (4)
If you disagree with a colleague about a solution to an applied marketing problem how likely are you to consult an academic to resolve the disagreement? (5)
How likely are you to pass on advice on marketing techniques that have solved a real world problem to a colleague (6)
How likely are you to advise an experienced practice marketer on how to enhance their marketing programmes (7)

Q8 How likely are you to seek advice on a practice problem from an academic or practitioner resulted in the following questions on a scale from very likely (1) to very unlikely (5)

Figure 5 List of dialogue and practice involvement questions from section 8 of the questionnaire

Further adaptations were implemented to ensure terms were not found confusing by respondents. Initial trials of the questionnaire found the following terms were confusing -

- No standard definition of expert appears in peoples mind so the term was replaced with' experience' to add clarity

3.3.4 Primary Data Collection Method

All methods of data collection possess advantages or disadvantages whether delivered electronically or traditionally (Wright, 2005). The characteristics of online distribution suited the nature of the research and its constraints. As Fricker (2006) points out researchers have to make trade-offs when choosing a sampling method. Here the trade-offs relate to the cost of obtaining a reliable sampling frame which would enable a sample of sufficient size to run a factor analytical study to be obtained.

First the study had a limited financial budget and the most frequently cited advantage of online surveys is their cost efficiency through the elimination of postage, paper and data entry costs. Further well educated professional populations are accustomed to working online and compared to phone or personal interviews online surveys provide for the respondent to complete them at a time and place suited to them. It is also maintained (Schafer, 1998) that respondents will spend more time working through a self-completion questionnaire than in answering questions via a telephone survey. The honesty of answers may increase in comparison to face to face interviews and interviewer errors like mis-recording answers, poor uniformity in asking questions and inconsistent levels of probing are eliminated (Bowker, 1999). Finally as Clayton argues (1998) online Web surveys are the most significant advance in survey methodology of the 21st Century.

However there are other issues to consider in online surveys. Evans (2005) argued that online surveys have advantages over conventional methods. A number of these were related to simple advantages afforded by electronic communications but the research did point to of specific advantages methodological advantages in comparison with conventional means. In summarising research findings about the effectiveness of online surveys he indicated examples of both better and poorer response rates and concluded that response rates were sample and survey specific and opined that quality of information was similar to conventional methods. In terms of weaknesses he cited a number related to online hygiene issues and also lower levels of

response was a generally cited feature (Fricker and Ronald 2006). Many of the criticisms including poor quality of sample frames relate to poor practice in sample frame development. For example Sackmary (1998) cited issues relating to the unreliability of email lists and provided examples of researchers building lists from newsgroups, or directories. However today good quality commercial email lists are available from major data research companies including Experian, Kompass, Thomson Local whilst Market Location a leading e mail consultancy cites clients including major commercial organisations. However the method is a relatively new one and accounts of the efficacy of online surveys do differ. For example Cobanoglu et al (2000) recommend the use of email surveys when surveying educators and found significant advantages in response rates and cost through use of the medium. Much of the literature and criticism about online surveys relate its use to B2C situations where issues like limitations on web coverage, inadequate sampling lists and so forth are points where online versus other methods can have drawbacks. However as Roster (2007) finds, online survey methods are no more susceptible to sample or population than traditional methods providing appropriate judgements are made. Equally whilst suggesting that the quality of data obtained via online methods may be somewhat inferior he concludes that no method is generally superior on all measure of affect and that this applies equally to academic and practice researchers. As Evans (2005) points out, online surveys are now a major force in research and opined that they have significant advantages over traditional formats, providing that potential weaknesses are recognised and addressed. My own response to these challenges was considered and justified earlier. Overall it seems that online surveys are now part of mainstream survey practice and that any disadvantages they have as with other methods can be dealt with through appropriate judgments on approaches.

3.3.5 Procedure

Invitations to participate in the research were sent to the sampling frame. Potential respondents were contacted by email and invited to complete the questionnaire at the Qualtrics site hosting the questionnaire. A follow up mail

was sent one week later as a reminder. The invitation and follow up provided for ethical considerations by providing information sufficient to ensure for informed consent. The invitation also described the purpose of the study and described why participants had been selected. The process took respondents about 15 minutes to finish. The request described the purpose of the study, the reason for their inclusion and provided an information sheet detailing their ethical rights. One week after the first email a second reminder was sent.

Pilot Study

The goal of the pilot study was to test the intelligibility of questionnaire items and to ensure language was understandable as well as to check the clarity of layout and instructions to identify any ambiguities or difficulties (Cohen, 2008). Participants were selected from the same populations as in the main study Various sizes of sample for pilot studies are reported, from 10% to less than ten and frequently just two or three (Brink, 1998). In this pilot three of each academics and practice marketers were interviewed and completed the instrument

Based on Hofer's original questionnaire some changes had already been made following the experience of Teng (2010) in applying the questionnaire to practice professionals in design. In particular Hofer's use of the term expert had caused prior interpretation problems and was replaced with experienced in this instrument. Theorists was used to replace professors, scholars and researchers in this version due to previously reported issues of clarity. .

Participants were given the instrument to complete and were asked to rate the questions as clear or unclear. On debriefing they were asked to verbally explain their views in terms of why a question was considered unclear by asking -

a) What is the question asking?

b) What terms would you use to express the question?

No significant issues emerged.

3.3.6 Ethical Considerations

Informed consent will be sought from all participants based around Staffordshire University model by providing a written description of –

Project Purpose
Purpose of research
Participant selection process
Procedures
Risks or discomforts
Benefits
Confidentially
Opportunity to as questions
Freedom to withdraw
Researcher contact details

Certainly a primary ethical goal is to do no harm and the informed consent letter provided to all participants will highlight that the decision is theirs to participate. So by ensuring participants are under no pressure and are sure of their rights I am not violating Cohen's (2007) list questionable practices

Equality in terms of race, religion, gender, ethnicity or sexual orientation is a fundamental of this research

3.3.7 Analysis

This section describes the methods of analysis used

3.3.7.1 Principle approaches to analysis

To identify the underlying structure of domain specific views, factor analysis was used. This reveals the underlying set of constructs which underpin academic and practitioner's epistemic views and allows a model of the dimensions underpinning epistemic belief to be constructed. Respondents

were coded as academics if their sole or principle expedience was academic, practitioner coding applied the same criterion. Respondent analysis revealed a third group named hybrids who had substantive experience in both camps. Because epistemic views are foundationalist, that is domain specific (Hofer 2004) it is reasonable to speculate that academics who have moved from practice to the Academy may share the epistemic views of their initial domain discipline. This group was analysed as a separate group with the aim of identifying any significant difference between them and the other 'pure groups'. One way analysis of variance (ANOVA) was applied. This analysis identified whether a significant gap exists on any of the epistemic dimensions identified between the three groups. In effect this provides evidence at a known level of significance for the existence of an epistemic gap between the three groups and on which dimensions. Finally correlation was carried out between the revealed primary factors and explanatory factors identified and classification variables. This identified the strength of the relationship between epistemic and explanatory factors and reveals the direction of the relationship. Such analysis will reveal whether individual factors (or epistemic dimensions) are, influenced strengthened or weakened by the explanatory factors and the direction of the influence. Identifying such influence will be a significant finding in explaining the cause and intransience of the gap and the extent to which the gap is influenced by the explanatory factor. Analysis was conducted using SPSS.

The next section describes the statistical approaches used in more detail

3.3.7.2 Factor Analysis – method

The purpose of factor analysis used here is to identify the underlying constructs underpinning epistemic belief structures across different domains – academic and practitioner. It is a technique widely used in the fields of psychology, social research and education. It is a multivariate procedure which reduces a large number of variables into a smaller number by intercorrelating the questions in the scale. By doing this it establishes the

unidimensional underlying dimensions or factors underpinning respondent answers.

Factor analysis

> *"….analyses the structure of the interrelationships among a large number of variables to determine a set of common underlying dimensions (factors)…it is used to discover the factor structure of a construct and examine its reliability"* (Hair, 2004)

> "*The goal of FA is to summarise the patterns of correlation among observed variables to reduce a large number of observed variables to a smaller number of factors to provide an operational definition (regression equation) for an underlying process*" (Tabacnik, 2007)

Factor analysis as a data reduction technique examines a large number of variables, in this case 34 questions from a Likert scale and summarises by intercorrelating responses into a smaller number of clusters or factors. In effect factor analysis analyses interrelationships among a large number of variables to determine a set of common underlying dimensions or factors. There are two main approaches to FA – exploratory and confirmatory. Exploratory as the name implies is concerned with exploring relationships between variable usually at the early stages of research and to generate theirs or models. Confirmatory FA however is used to test or confirm specific hypotheses regarding existing theories or models. Here exploratory factor analysis is an appropriate technique to reveal the factor structure of a construct like epistemic value and to examine the reliability of those antecedent factors (Hair, 2004).

3.3.7.3 Factor analysis – reliability and factor extraction

Williams (2010) indicates a 5 step protocol for Factor analysis –

1 Data suitability – There are two main issues in deciding whether a data set is suitable for factor analysis. These are sample size and the factorability of the data. Sample size is more than sufficient as discussed already (section 3.3.1). In assessing the suitability of the data for factor extraction Interpretation of results was directed by the Kaiser-Myer-Olkin measure of sampling adequacy (KMO). Bartlets test of Sphericity was used to test for statistical significance in support of the factorability of the correlation matrix. KMO should be at .6 or above and Bartlets test of Sphericity is significant at $p<.05$ (Williams, 2010, Pallant, 2007). Cronbach alpha was used to test the internal consistency of the scale used. Here, the nearer the coefficient is to 1, the greater the internal consistency of the scale, (Pallant, 2007) with 'rules of thumb' as >.8 good, .>.7 acceptable, >.6 questionable and < 5 poor. The DEBQ has established Cronbach scores in the range of .81 to .51 from previous studies.

2 Factor extraction – The goal of factor extraction is to obtain the smallest number and most significant factors by identifying sets of intercorrelated variables to model interrelationships between them. As the main research goal is to explore the whether a gap in epistemic views exists (the TP gap) and no prior theory exists to model the possible gap, exploratory factor analysis was used. Exploratory factor analysis itself has two approaches, principle components analysis (PCA) and principle factor analysis (PFA) or principle axis factoring (PAF). Hughes et al argue (2011), that factors produced by PFA/PAF are less likely to be contaminated by error than the alternative PCA, hence principle axis factoring (PAF) has been used.

Exploratory factor analysis is however open to criticism. This is not directed at the statistical approach but to the subjective nature of the interpretation of the factors extracted, Thompson (2004) as well as the pragmatic rather than theoretical criteria which determine the number of factors to be extracted (Tabachnik, 2001). However such subjectivity can be limited providing the researcher applies sound judgement and analysis to factor reduction and interpretation (Henson, 2006). I would also argue that EFA need be no more subjective in model or theory generation than CFA. The argument for the

objectivity of CFA rests on the objectivity of the model being tested and such model may easily be subject to the same argument of reliability that is directed to EFA.

3 Criteria for deciding on the number of factors to extract - A combination of criteria is used (Hair, 2010), including Kaisers criteria (eigenvalue > 1 rule), scree tests and parallel analysis.

Kaiser's criterion chooses only chooses factors with an eigenvalue greater than 1, where the eigenvalue is the amount of total variance explained by the factor. According to Hair (ibid) in the natural sciences factor accumulation should be stopped when 95% of variance is explained but in the humanities explained variance is often much lower at 50% to 60% or less. A criticism of Kaiser is that it can lead to retention of too many factors (Pallant, 2007). This lack of clear guidelines shows why multiple criteria obtain.

Catell's scree test involves plotting factor eigenvalues to identify the point at which the shape of the curve changes. Catell suggests retaining factors above the break as these factors explain the majority of the variance.

Parallel analysis was used to contribute to the identification of the number of factors that could be extracted. Thompson (2004) suggests the technique is amongst the best methods for deciding on the number of actor to retain. The method works by comparing eigenvalues obtained with random eigenvalues generated from a comparable data set, with only eigenvalues exceeding the corresponding random value being retained. The analysis used here is taken from Watkins MonteCarlo software for parallel analysis available at http://www.allenandunwin.com/spss/further_resources.html (Pallant, 2007) or at Watkins site at (Watkins, 2000)

4 Selection of rotational method - An oblique (direct oblim) rotation with Kaiser normalization (Kaiser, 1958) was used for the analysis (delta = 0). Oblique (direct oblim) rotation was chosen because it allows factors to correlate. The argument over rotation is subtle. But alternative 'othogonal'

rotation, for example varimax, produces factors that are un-correlated. In social sciences as Costello points out some correlation between factors is to be expected as human behaviour is unlikely to be compartmentalised (Costello, 2005). If factors are correlated then use of varimax rotation would involve loss of data and if they are not correlated then orthogonal and oblique rotation produce virtually the same results. Finally Costello and Osborne (ibid) argue that oblique rotation produces more accurate results for research without priori assumptions and involving human behaviour.

A Delta value = 0 was used. This is the default value in SPSS and was maintained to avoid very high and low correlations between factors as well as to avoid increasing the complexity of subsequent factor interpretation (Pallant, 2007).

The factor correlation matrix identified the total number of factorable items see table at appendix 6. The pattern matrix (tables 21 and 24) generated using a coefficient criterion of 0.3 was used for selection and interpretation of the factor loadings (Pallant, 2007).

5 Interpretation – this involves examining the item variables which load on the factor and interpreting them. Following rotation the ideal situation (rare) or simple structure, is for each of the questionnaire item variables to load strongly against just one component (Thurstone, 1947) and each component to be underpinned by a number of strongly loading item variables.. As Henson and Roberts (2006) noted “the *labelling of factors is a subjective, theoretical and inductive process”*. At least two or more items should load on a factor for it to be subject to meaningful interpretation,

Process used - Factor analysis was conducted using SPSS. A first order extraction reveals the initial factors extracted and the pattern matrix produced shows the factor by clustering the correlated item variables together based on items loading above 0.3. This provides for an initial identification of factors shown in the pattern matrix and the total variance explained by the extracted factors is shown in the total variance explained table. Based on parallel

analysis, the scree test and Kaiser's criterion an optimal number of factors is determined. A second order extraction is then run forcing SPSS to extract only the number of factors instructed

3.3.7.4 Parametric or Non parametric tests for the gap between domains (academics and practitioners)

Factors extracted were tested for normality and were found to show both normal and slightly skewed distributions. However as the results section will discuss the skewness was small; distribution was still symmetrical and slightly leptokurtic. To test for normality or shape of the data, Q-Q plots and histograms with a curve overlay were used to examine the shape of the data underpinning each factor extracted. A detrended normal Q-Q plot shows deviation of the item scores making up the factor scores from a straight line. Ideally for normal data there should be little deviation from the straight line or clustering of points. In addition the Kolmogorov-Smirnov statistic assesses the normality of a data set. Here a non-significant result or sig > .05 indicates normality (Pallant, 2007)

Differences between academics and practitioner groups were therefore analysed using parametric methods. Factor means were compared against the same factors for academics and practitioners to identify any significant differences in mean scores between the two groups. To test for potential differences between academics and practitioners in respect of the emerged factors, ANOVA analysis was used together with error bars comparing means for each group by each factor.

Correlation analysis was used to examine any relationships between epistemic factors and any explanatory factors that emerged,

Missing values were handled using the listwise method.

Chapter 4.0 Results

This chapter presents a detailed examination of the results of the factor analysis from the sample obtained using the DEBQ research instrument and is broken into 4 parts –

1 The first section presents respondents data (section 4.1)
2 Extraction for primary epistemic and secondary explanatory factors and their interpretation (4.2)
3 Presents evidence justifying the use of ANOVA to test for significance in the differences between mean factor scores between the two groups and results (4.3 and 4.4).
4 Examines level and direction of correlation between primary and secondary factors (4.5)

4.1 Respondent Analysis

The following section presents descriptive data on respondents from the survey

Table 10 Respondent breakdown

Academic or practitioner

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Academic	89	25.6	25.9	25.9
	Practitioner	216	62.1	63.0	88.9
	Hybrid	38	10.9	11.1	100.0
	Total	343	98.6	100.0	
Missing	System	5	1.4		
Total		348	100.0		

Figure 6 shows the proportion of respondents between academics and practitioners

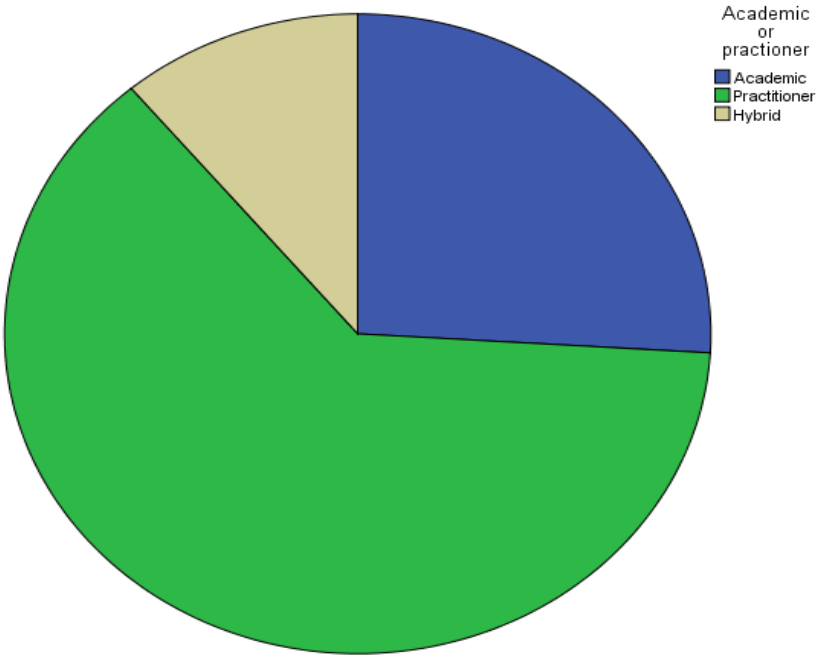


Figure 6 proportions of respondents between academics, practitioners and hybrids

Table 11 profiles the experience in years of sample respondent's experience in practice marketing

	Frequency	Percent	Valid %	Cumulative %
1 Less than 1 year	17	4.9	5.8	5.8
2 More than 1 year < 4 years	19	5.5	6.5	12.4
3 More than 4 years < 6 years	27	7.8	9.3	21.6
4 More than 6 years < 8 years	21	6.0	7.2	28.9
5 More than 8 years < 10 years	27	7.8	9.3	38.1
6 More than 10 years	175	50.3	60.1	98.3
7 Unverified	5	1.4	1.7	100.0
Total	291	83.6	100.0	
Missing System	57	16.4		
Total	348	100		

A majority of respondents, 50.3%, had significant marketing practice responsibility of more than 10 years. Distribution of respondent's here showed a trend toward increasing years of practice experience. But all experience ranges were represented

Looking at level of academic experience –

Table 12 Levels of academic experience

	N	Minimum	Maximum	Mean	Std. Deviation
Approximately how many years have you worked as a marketing academic	194	1	7	3.08	2.151
Valid N (listwise)	194				

Some 194 respondents had some academic experience which was a surprising result as I had expected a clearer division between the two groups.

The table below shows the corresponding level of academic experience.

Table 13 Years working as marketing academic

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 year	71	20.4	36.6	36.6
	More than 1 year but less than 4 years	34	9.8	17.5	54.1
	More than 4 years but less than 6 years	20	5.7	10.3	64.4
	More than 6 years but less than 8 years	8	2.3	4.1	68.6
	More than 8 years but less than 10 years	6	1.7	3.1	71.6
	More than 10 years	48	13.8	24.7	96.4
	7	7	2.0	3.6	100.0
	Total	194	55.7	100.0	
Missing	System	154	44.3		
Total		348	100.0		

Figure 7 below shows the proportions of years worked as an academic

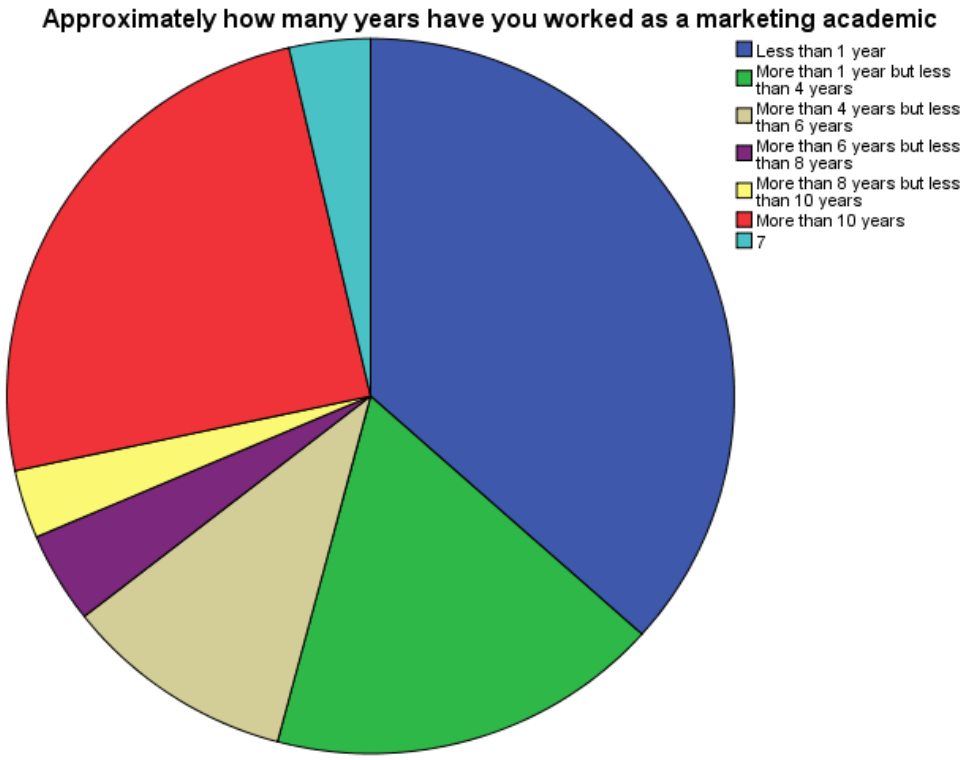
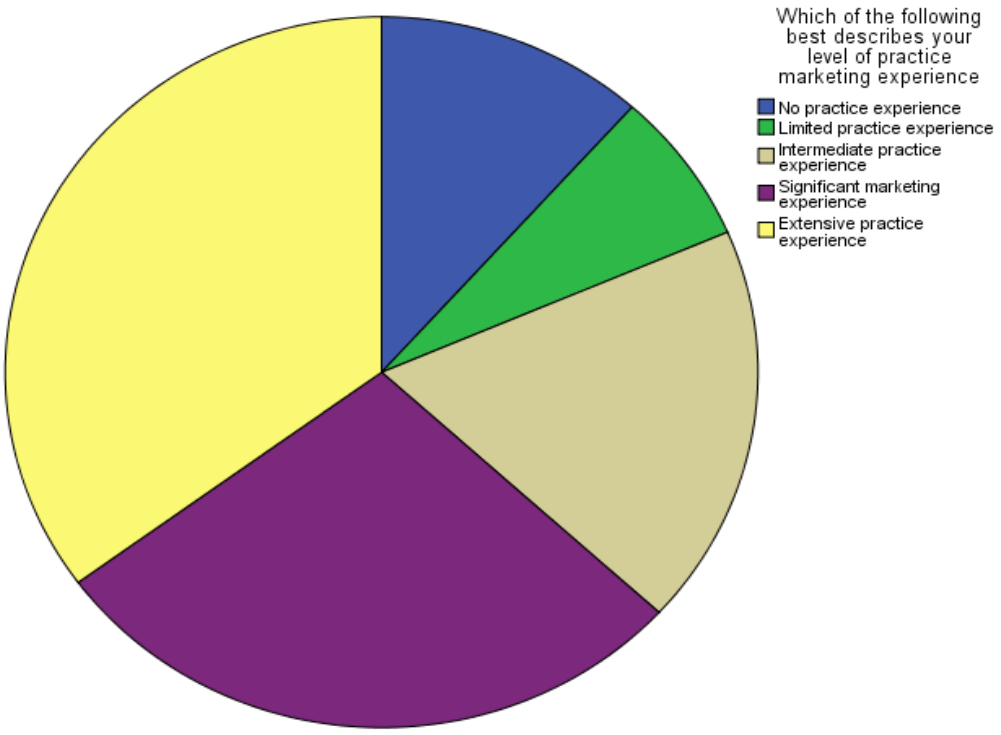


Table 14 below indicates the level of practice experience amongst respondents

Table 14 Level of practice marketing experience

	Frequency	Percent	Valid %	Cumulative %
1 No practice experience	40	11.5	11.6	11.6
2 Limited practice experience -	24	6.9	7.0	18.6
3 Intermediate practice experience	63	18.1	18.3	36.8
4 Significant marketing experience	97	27.9	28.1	64.9
5 Extensive practice experience	121	34.8	35.1	100.0
Total	345	99.1	100.0	
System	3	.9		
	348	100.0		

Figure 8 below shows the proportions of levels of marketing experience amongst respondents



4.2 Exploratory Factor Analysis

The following section examines two principle issues. The first looks at the distribution of the data and justifies the use of subsequent factor analysis. The measures used in SPSS to assess the factorability of data are Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlet's Test of Sphericity (Pallant, 2007). Factors are extracted in two stages. The first order analysis extracts a number of factors which have an initial eigenvalue above 1. This group is then subject to analysis to ascertain how many factors to retain. The methods of used to assist in the retention decision are scree tests and parallel analysis. Once the final number of factors has been determined a second order factor analysis is run to 'force' the final extraction constraining the number of extracted factors by the number determined by the analysis mentioned above. This process is done separately for the two stages of the

questionnaire. This first part is for the initial epistemic items in the questionnaire, items 1 to 27. The dialogue items 1 to 8 are analysed subsequently.

The second issue addressed is the analysis the factors identified in terms of their underpinning items and interpreted to define the factor. This analysis is informed by factor definitions identified by previous research but also crucially value of .6 by the nature of the underlying item structure. This section is interpretive rather than statistical and leads to a definition for the extracted factors.

4.2.1 Reliability analysis - Suitability of data for factor analysis

Kaiser-Meyer-Olkin values of sampling adequacy exceeded the recommended suggested as the minimum (Pallant, 2007). Bartlet's Test of Sphericity achieved significance at < .05 (actually .000) from (Pallant, 2007, Field, 2009) supporting the factorability of the correlation matrix

Table 15 Suitability of data for factor extraction

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.84
Bartlett's Test of Sphericity	Approx. Chi-Square	2417.80
	df	35
	Sig.	.00

The achievement of a number of factors above .3 in the correlation matrices supported factorability of a number of items.

4.2.2 Factor Extraction

Exploratory factor analysis was performed using SPSS Principle Axis Factoring (PAF) and oblique (direct oblim) rotation. A first order analysis was completed initially to identify the landscape of factors from the data followed by a second order extraction to extract the optimum number of factors specified by parallel analysis.

4.2.3 First Order Factor Extraction

The principle factor analysis first order rotation pattern matrix extracted, of the principle epistemic question section, 7 factors with eigenvalues above 1, explaining 22.4%, 10.9%, 6.3%, 5.4%, 4.7%, 4.2% of the variance respectively. The pattern matrix extracted is shown below in table

Table 16 Pattern Matrix identifying factors extracted (first order extraction)

Pattern Matrix[a]

Factors	1	2	3	4	5	6	7
Q7_26	.700						
Q7_15	.614						
Q7_7	.579						
Q7_6	.524						
Q7_24	.425						
Q7_2	.407						
Q7_20	.403						
Q7_4	.390			-.375			
Q7_27		.703					
Q7_25		.683					
Q7_17		.579					
Q7_14		.573					
Q7_11		.570					
Q7_5		.430					
Q7_18			-.827				
Q7_1			-.805				
Q7_23			.380				
Q7_3				-.512			
Q7_19				.484			
Q7_12				.458		-.344	
Q7_21							
Q7_13					.492		
Q7_22					.398		
Q7_10					.354		
Q7_8					.354		
Q7_9						.660	
Q7_16							.694

Extraction method: Principle axis factoring. Rotation method: Oblimin with Kaiser normalization

Rotation converged in 12 iterations

Three items, question 12, 9 and 16 did not loading onto any factor
In interpreting the rotated factor pattern an item was accepted as loading when the factor loading criteria = or > than 0.3. A factor with three or less items is considered unstable with five or more indicating a solid factor (Tabacnik, 2001).

Table 17 Total Variance explained

Total Variance Explained

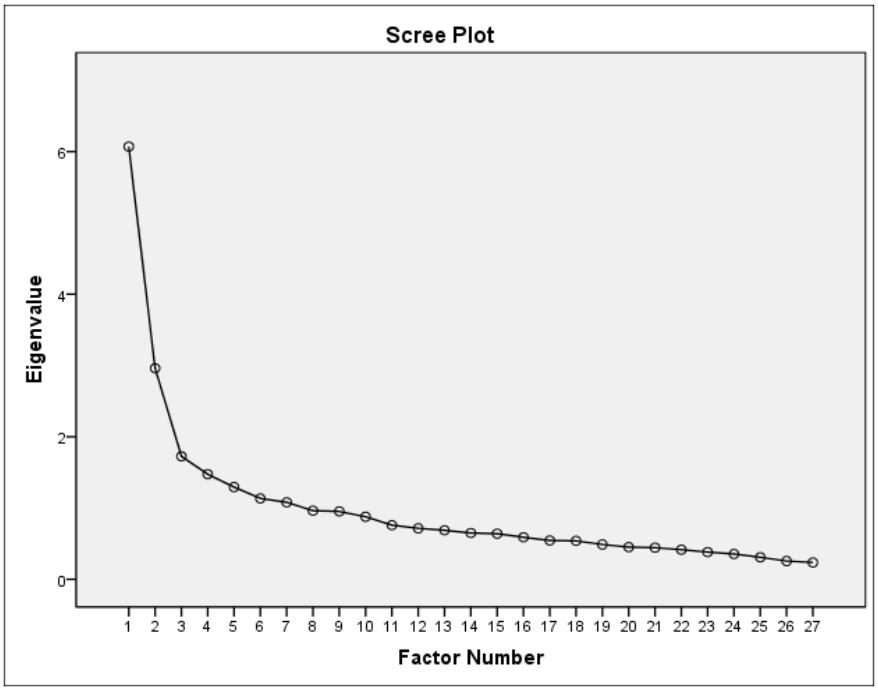
	Initial Eigenvalues			Extraction Sums of Squared Loadings	
Factor	Total	% of Variance	Cumulative %	Total	% of Variance
1	6.071	22.485	22.485	5.566	20.613
2	2.961	10.968	33.453	2.475	9.166
3	1.726	6.392	39.845	1.207	4.472
4	1.474	5.461	45.306	.892	3.302
5	1.294	4.792	50.098	.691	2.558
6	1.136	4.206	54.304	.544	2.015
7	1.080	4.000	58.304	.512	1.897
8	.962	3.564	61.868		
9	.953	3.528	65.396		
10	.878	3.252	68.648		
11	.759	2.813	71.461		
12	.716	2.650	74.111		
13	.688	2.547	76.658		
14	.650	2.408	79.066		
15	.641	2.373	81.438		
16	.589	2.182	83.621		
17	.545	2.017	85.638		
18	.539	1.996	87.634		
19	.488	1.809	89.443		
20	.452	1.672	91.115		
21	.444	1.646	92.760		
22	.415	1.536	94.297		
23	.383	1.417	95.714		
24	.356	1.317	97.031		
25	.309	1.145	98.175		
26	.257	.951	99.126		
27	.236	.874	100.000		

Extraction method: Principle axis factoring. Rotation method: Oblimin with Kaiser normalization
a. Rotation converged in 12 iterations

Using Kaisers criterion (the eigenvalue rule), only factors with an eigenvalue of 1 or above are retained for investigation (Pallant, 2010). Table 22 above shows 7 factors have eigenvalues above 1 accounting for 58.3% of variance.

This view on factors extracted was somewhat supported by Catells scree plot which suggested a 3 to 7 factor solution

Figure 9 Scree plot first order extraction



Catell recommends that factors above a break in the curve be accepted. However there is no clear break between items four and eight. To overcome this ambiguity and identify the number of factors to retain, parallel analysis has been used below. This identifies the optimum number of factors to retain and a second order extraction, structured to force the optimum number of factors to emerge is subsequently employed.

4.2.4 Identifying the number of factors to retain

Parallel analysis is a principle technique used to determine the number of factors to retain, especially in social science research (Choi, 2001) and is used in conjunction with the scree test.

The results of parallel analysis are summarised in table 18 below. Here actual eigenvalues generated are compared to average eigenvalues generated by MonteCarlo PCA software. The rule is to accept as retained factors those with eigenvalues above the criterion value generated by the software. This led to four factors being retained. This agrees with Tabachnik and Costello's rules of thumb. Catell's scree plot was more ambiguous with an obvious clear break not being apparent.

Table 18 Parallel Analysis

	Criterion value from Parallel Analysis	Actual Eigenvalue from PAF	Decision
1	1.5761	6.071	Retain
2	1.4862	2.961	Retain
3	1.4218	1.726	Retain
4	1.3672	1.424	Retain
5	1.3216	1.296	Reject
6	1.2722	1.136	Reject
7	1.2285	1.08	Reject

Data was extracted from Watkins (2000) software package for parallel analysis.

This led to a second order extraction forcing a four factor solution below

4.2.5 Second Order Factor Analysis – factors extracted

Second order rotation fixing the rotation to extract four factors shown in table 19 below.

Table 19 Second order factor extraction

Pattern Matrix[a]

	Factor			
	1	2	3	4
Q7_26	.689			
Q7_15	.678			
Q7_6	.654			
Q7_7	.584			
Q7_24	.537			
Q7_20	.468			
Q7_2	.426		-.369	
Q7_12	.401			.359
Q7_4	.384			
Q7_16				
Q7_27		.760		
Q7_25		.726		
Q7_17		.677		
Q7_11		.583		
Q7_14		.537		
Q7_5		.432		
Q7_13		.423		-.375
Q7_22				
Q7_18			-.825	
Q7_1			-.704	
Q7_23			.425	
Q7_9				
Q7_10				
Q7_3				-.550
Q7_19				.483
Q7_8				-.313
Q7_21				-.309

4.2.6 Factors extracted – item structure

Table 20 below shows the items (questions) underpinning the extraction of the factors identified

Table 20 Construction of factors extracted

Factor 1
26 I am most confident that I know something when I know what academic experts think
15 I know the marketing solutions to problems because textbook theory is a good guide to solving marketing problem
6 If you read something in an academic marketing textbook you can be sure it is true
7 A theory in marketing is accepted as correct if academic experts reach a consensus
24 All experts in marketing understand the field in the same way
20 If my personal experience conflicts with ideas in a text book, the book is probably right
2 In the field of marketing most problems have only one right solution
12 If marketing theorists try hard enough, they can find marketing solutions to any marketing problem
4 All marketing theorists would probably come up with the same solutions to problems

Factor 2
27 First-hand experience is the best way of knowing something in marketing
25 I am more likely to accept the ideas of someone with first-hand experience than the ideas of theorists in the field of marketing
17 Experienced marketers can ultimately get to the truth about marketing problems
11 Correct solutions to the field of marketing are more a matter of experience than fact
14 I know the marketing solutions to problems because I have figured them out for myself
5 The most important work of marketing is coming up with generating revenue
13 The most important part of being an experienced marketer is accumulating a lot of knowledge about different marketing problems

Factor 3
18 Marketing theory is unchanging
1 Truth is unchanging in this subject.
23 Solutions to problems in marketing change as experts gather more information

Factor 4
3 Sometimes you just have to accept marketing solutions from experienced marketers even if you don’t understand them
19 Marketing theory can be applied in many situation
8 Most of what is true in the field of marketing is already known
21 There is really no way to determine whether someone has the right solution in marketing

Cronbach scores for the 4 factors are shown below

Table 21

Factor	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
F1	.836	.838	9
F2	.811	.820	7
F3	.686	.675	3
F4	.708	.698	4

4.2.7 Second Group of Factors – knowledge and dialogue

A second group of factors was extracted separately from the second part of the questionnaire.

Table 22 below shows evidence supporting the suitability of the data for factor analysis of the second group of factors

Table 22 Reliability measures of data used – 2nd group factors

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.605
Bartlett's Test of Sphericity	Approx. Chi-Square	301.41
	df	21
	Sig.	.000

Kaiser-Meyer-Olkin values of sampling adequacy exceeded the recommended value of .6 suggested as the minimum (Pallant, 2007) Bartlett's Test of Sphericity achieved significance at < .05 (actually .000) supporting the factorability of the correlation matrix

These questions related to dialogue and engagement with practice and are intended to provide explanation for the 4 principle factors extracted but also to provide an opportunity for some direction for a possible epistemology of theory-practice to emerge, Two factors showed eigenvalues above 1 and these are shown in table 23 below

Table 23 Pattern matrix, second group factor extraction – 1st order extraction

Pattern Matrix

	Factor	
	1	2
Q8_1	.618	
Q8_2	.573	
Q8_5	.546	
Q8_4	.462	
Q8_7		.833
Q8_6		.564
Q8_3		.347

Extraction Method: Principal Axis Factoring. Rotation Method: Oblimin with Kaiser Normalization. a. Rotation converged in 7 iterations.

Table 24 below shows the total variance explained for the 7 factors extracted

Table 24 total variance for second factor group extracted

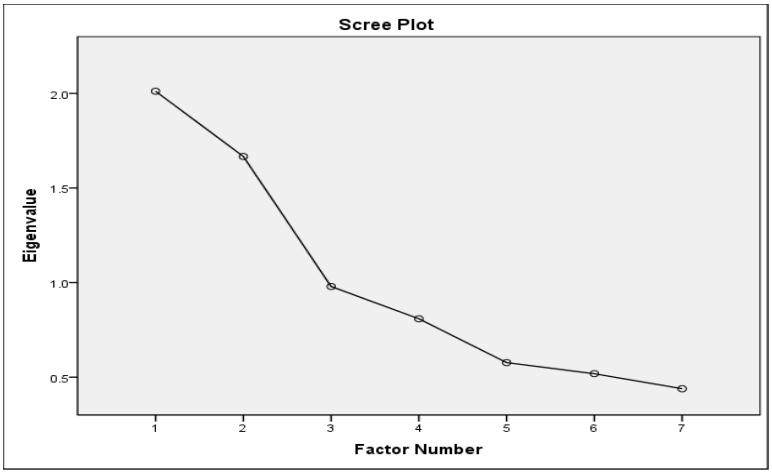
	Initial Eigenvalues			Extraction Sums of Squared Loadings	
Factor	Total	% of Variance	Cumulative %	Total	% of Variance
1	2.012	28.736	28.736	1.425	20.352
2	1.667	23.807	52.543	1.066	15.229
3	.979	13.989	66.533		
4	.809	11.551	78.083		
5	.577	8.242	86.326		
6	.518	7.404	93.730		
7	.439	6.270	100.000		

Table 25 Total variance explained second group factors

	Extraction Sums of Squared Loadings	Rotation Sums of Squared Loadings
Factor	Cumulative %	Total
1	20.352	1.272
2	35.580	1.224

The table above shows that 2 factors explained some 35.5% of all variance.

Figure 10 Scree plot – 1st order extraction



The scree plot showed potential for a 3 factor solution but evidence for a third factor is weak. Thus two factors were extracted. Subjecting these to parallel analysis to confirm how many factors should be retained –

Table 26 Parallel analysis second group of factors

	Criterion value from Parallel Analysis	Actual Eigenvalue from PAF	Decision
1	1.193	2.012	Retain
2	1.0816	1.667	Retain

Parallel analysis indicates that both factors should be retained

4.2.7.1 Explanatory Factors extracted - item structure

Table 27 below shows the questions underpinning the extraction of each factor. The items loading on factor 5 are 1, 2, 5 and 4. These items revolve

around issues of knowledge legitimacy and dialogue and have been interpreted in that respect

Table 27 Questions underpinning each factor – second factor group

Factor 5 revolves around explicit knowledge or techne, mode 1 – source authority

1 How likely are you to seek marketing advice on an applied practice problem from an *academic*
2 How likely are you to seek advice from a *text book* on an applied marketing problem
5 If you disagree with a colleague about a solution to an applied marketing problem how likely are you to consult an *academic* to resolve the disagreement?
4 How likely are you consult an applied practice book on marketing to solve a real-world problem

Factor 6 – revolves around tacit knowledge or dialogue or mode 2 knowledge. The 3 items loading on this factor relate to issues of contact with practice, use of practice or mode 2 knowledge

7 How likely are you to *advise* an experienced practice marketer on how to enhance their marketing programmes
6 How likely are you to *pass on* advice on marketing techniques that have solved a real world problem to a colleague
3 How likely are you to *seek advice* from a practice marketer to an applied marketing problem

Table 28 Cronbach scores for final 2 factors are shown below

Factor	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
F5	.635	.635	4
F6	.567	.567	3

4.2.8 Definitions of factors extracted

This is an interpretive process and evaluation of main items forming the factor Hofer's and other factor labels leads to the following proposed factor definitions. These definitions form the combined epistemic model for a practitioners and academics. Differences in views on these factors between the two groups indicates epistemic gaps between them

Table 29 below is an interpretation of factor labels based on the previous findings of Hofer and other contributors from table 7 and this provides a broad model of an epistemology of knowledge for the marketing community

Table 29 Definitions for factors extracted - all

Definitions for factors extracted	
Factor 1	Confidence in academic authority, naïve realism
Factor 2	Primacy of personal experience and context or metaphorism
Factor 3	Certainty or simple knowledge or dualism
Factor 4	Justification from discipline source – objective or subjective or thinking feeling, within a mature knowledge base
Factor 5	Source authority – from mode 1 or mode 2 knowledge
Factor 6	Practice dialogue

Factors 1 to 5 are seen as similar to factors extracted elsewhere from other epistemic studies and from theory but factor 6 – practice dialogue – is unique. It is reflective if the dichotomies listed earlier and is particularly associated with modes 1 and 2 knowledge in which dialogue plays a large part in mode 2 knowledge. In essence factors 1 to 5 are discipline factors related to values about the significance of types of knowledge in the discipline. Factor 6 is about engagement with practice through dialogue and it may have explanatory value in terms of any epistemic gaps that appear later.

Summary

Two sets of factor solutions have been extracted. The first set derives from Hofers DEBQ and interpretation of these provides for a model of a domain specific epistemology for academics and practitioners. The model has a four factor design and is similar to Hofer's model but distinctive based on domain specific issues. The model is shown below and analyses the basic epistemic elements of the sample group as a whole.

Table 30 Factor Model descriptions factors 1 to 4

	Factor definition	Factor description	
Factor 1	Confidence in academic authority	Factor items here point to the primacy of authority derived from context independent, explicit theory.	These two factors have similarities to Hofer's 'certainty of knowledge - absolute or contextual. Here knowledge orientates between absolute towards contextual.
Factor 2	Primacy of personal experience and context or metaphorism	These factor items point to a framework of knowing from doing	
Factor 3	Certainty or simple knowledge or dualism	A small number of items but they do show a clear, dichotomous factor structure. This dichotomy sees knowledge as fixed and unchanging but knowing as emergent and dynamic from practice	Similar to Hofer's 'simplicity of knowledge' factor
Factor 4	Justification from discipline source – objective or subjective or thinking feeling	The natures of the items underpinning this factor are diverse. They indicate elements of belief in a fixed knowledge base. But also suggest knowing is a contingent situation based on 'local' authority	It suggests Hofer's justification of knowledge dimension where individuals move through a continuum of beliefs from simple to multiplistic to reasoned justification.

Factors 5 and 6

A second set of epistemic views was extracted from the additional explanatory items included with the research instrument. These items relate to the source of authority for knowledge and issues of communication/involvement with practice. Two factors emerged here. The first labelled Source authority – relates to source of knowledge. Is it handed down by text or derived from experience and is similar to Hofers source of knowledge dimension. The second related to dialogue with practice and relates to use of tacit or mode 2 knowledge. It is fundamentally domain specific

Table 31 Factor Model descriptions factors 5 and 6

Factor 5	Source authority	This factor revolves around derivation of authority of knowledge	It is similar to Hofer's 'source of knowledge' factor. Here knowledge is handed down by external (textual) authority or legitimised by practice experience
Factor 6	Practice dialogue	This factor relates to involvement with practice	Not a factor that has emerged elsewhere as it is not about knowledge but about involvement.

Hofer's factors form two clusters. What people believe knowledge is and how people come to know. Interpreting from table 7 we see that factors 1, 2 and 3 represent the first and factors 4 and 5 the second

Table 32 Factor structure of beliefs about knowledge and coming to know

What we believe we know F1, 2 and 3	How we come to know Factor 4 and 5
Belief in knowledge therefore appears to emerge from confidence in academic or technical authority independent of context and either absolute or contextual Personal experience emerges as a significant mediator of belief Knowledge is seen as a dichotomy from simple and static to dynamic based around accumulation of facts or from dynamic emergent situations	Individuals come to know through a journey from simple to complex knowledge but along a dimension which relates to a fixed to contingent knowledge base. Knowing is justified from background – academic or practitioner within a mature knowledge base Knowledge is also known through being handed down by authority but also via experience.

The identification of factor labels and their interpretation is subjective and interpretive but also based on prior identification of factors labels from Hofer and Wilkinson and the items contributing to them from Hofer. Hofer's factors are similar to those of other contemporary studies of domain specific epistemologies and Wilkinsons typology of epistemic factors together with others from table 5 were also used to form a basis for factor interpretation. As Henson (2006) observes "The subjectivity imposed by the analyst in making the above decisions compounds the problem of interpretation. The factor solutions are affected significantly by these decisions" However the use of a standardised research instrument (DEBQ) and interpretation based on already identified factor constructs goes some way to addressing subjectivity.

The next section evaluates the distribution of the data obtained in order to determine the appropriate statistical method to evaluate possible differences between groups

4.3 Reliability Analysis – an examination of the data underpinning the factors extracted

This section examines evidence for the reliability and distribution shape of the data used. The shape of the data underpinning each factor will influence the choice of subsequent tests for differences between the two sub groups involved – practitioners and academics – and will identify whether parametric or nonparametric tests will be applied.

4.3.1 Reliability Measures- Distribution of the data underpinning the factors extracted

The first section examines evidence for normality in the distribution of data obtained.

To assess normality, QQ plots, histograms with a superimposed curve are used and also the Kolmogorov-Smirnov statistic is presented as a further test

for normality. The aim of the section is to justify the use of parametric approaches to analysing differences between academics and practitioners

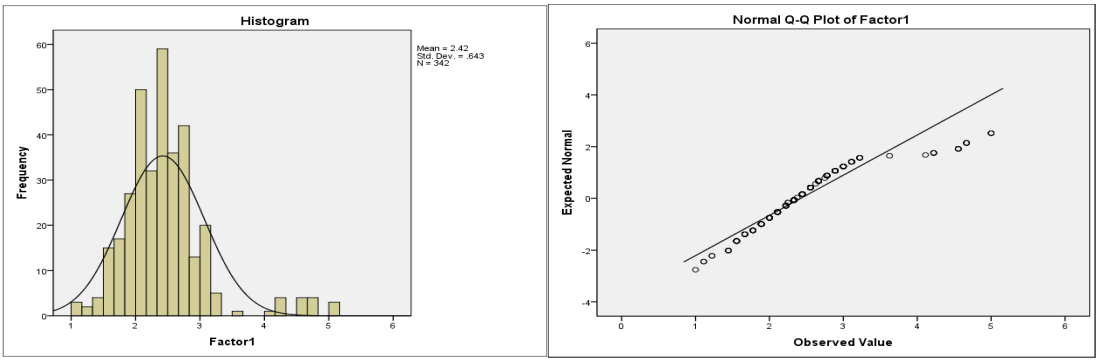
Normality plots Factors 1, 2, 3, 4, 5 and 6

Distribution of the data underlying the factors identified was analysed using histograms and Q-Q plots for the aggregate data providing the antecedents of the factors

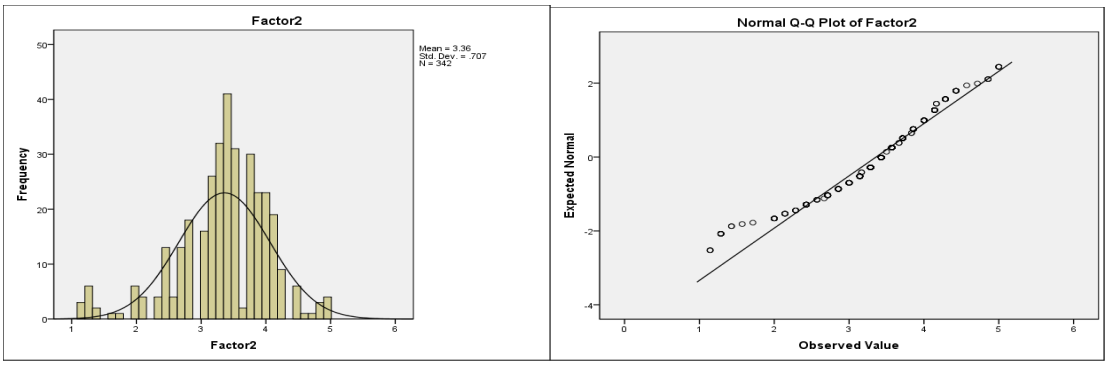
These are shown in figure 10 below.

Figure 11 Q-Q plots for each factor

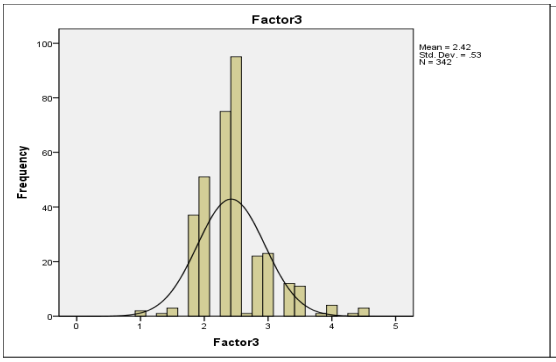
Factor 1

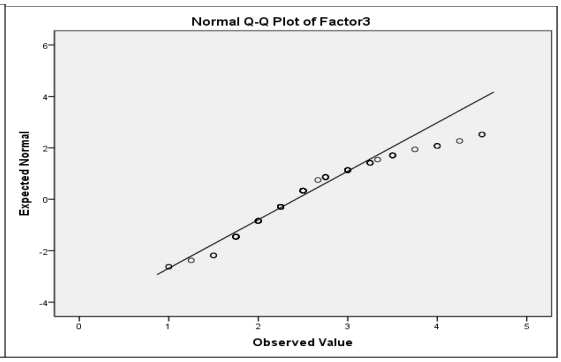


Factor 2

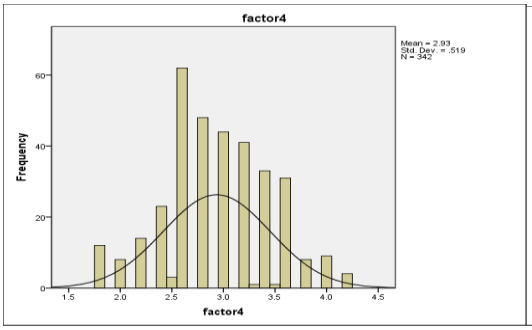


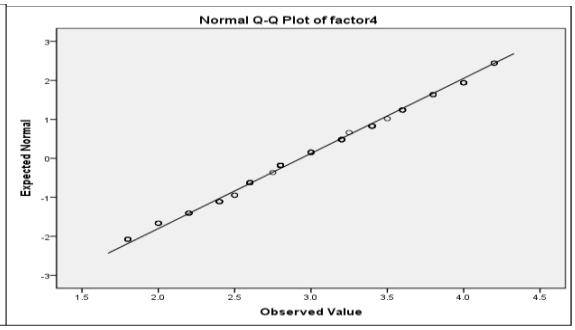
Factor 3



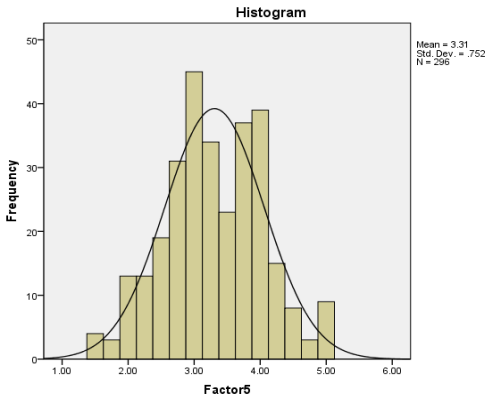


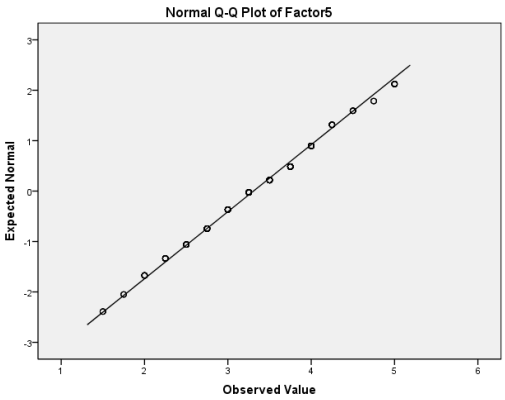
Factor 4



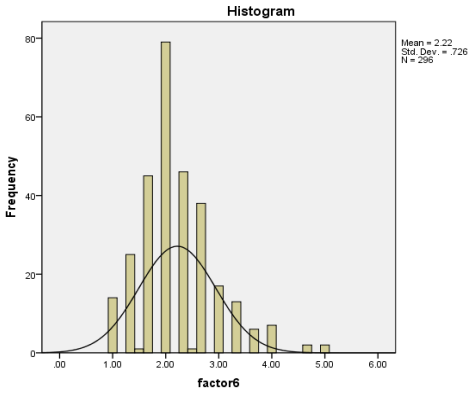


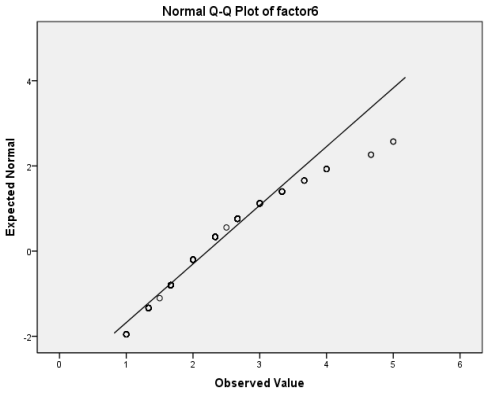
Factor 5





Factor 6





Histograms and Q-Q plots test for normality although Interpretation is more subjective than clear cut. The closer to the line the plot is the greater the normality of the data. But straggling around the line is acceptable and usual but its extent is a matter of judgement and sample size (Murdoch, 2009). Factors 4 and 5 are close to the line and normality is clearly observed. Factors 1, 2, 3 and 6 have a shape suggestive of a still symmetrical distribution of data but one which is slightly leptokurtic but that is still symmetrical.

The issue of parametric or non-parametric analysis is a subtle one and in this case I would judge the degree of skewness from normal to be insufficient for a non-parametric approach. Field (2009) argues that it is the shape of the distribution that is most important and here the shape is normal (although somewhat leptokurtic) and that with large samples the central limit theorem will tend toward a normal distribution. Comparing the Q-Q plots with those provided for comparison and interpretation by Murdoch University (2009) suggests that an assumption of normality for factors 1, 2, 3 and 6 is acceptable. Furthermore where is skew is only moderate Field (Field, 2009) suggests that parametric tests for differences between groups are appropriate. Hence I have used a one way ANOVA at 4.4, to test for difference in views on the significance of the factors identified between the three groups rather than non-parametric equivalents like the Mann-Whitney test.

Additional evidence of the normal distribution of data is also obtained using the Kilmogorov-Smirnov and Shapiro-Wilk test below

4.3.2. kilmogorov-Smirnov test and Shapiro-Wilk tests

These tests both test for normality. In each case both the Kolmorogov-Smirnov and Shapiro-Wilk tests show a significance of 0.000 to .001 across all factors, which suggests violation of normality but in practice such a result is common in large samples (Pallant, 2007) and has therefore been discounted here. The Normal Q-Q plot above and Field's views on parametric tests

where limited skewness exists, provides sufficient evidence to justify a parametric approach

Table 33 Kolmorogov-Smirnov and Shapiro-Wilk tests

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Factor1	.136	342	.000	.876	342	.000
Factor2	.117	342	.000	.954	342	.000
Factor3	.213	342	.000	.915	342	.000
Factor4	.099	342	.000	.978	342	.000

Summary

The evidence is sufficient to suggest the use of parametric approaches to explore any gap between practitioners and academics in respect of their positions regarding the extracted factors and justifies the use of the one way ANOVA

4.4 Examining for difference between academic and practitioner

This section examines for differences in the sample mean for each factor identified between the two groups examined. The aim is to identify whether the three groups share similar different views on the epistemic factors identified as common for the entire sample. The one way ANOVA is used together with error bars for a visual representation

4.4.1 One way ANOVA

This tests for differences between means between the groups and compares the means for academics, practitioners and hybrids for each of the factors identified. Any significant difference between the means of the groups indicates that the groups have different views on the epistemic factor in question. So whilst the factors are common for each group, it may be that academics, practitioners and hybrids view each factor differently.

Results Examining for difference between academic and practitioner groups

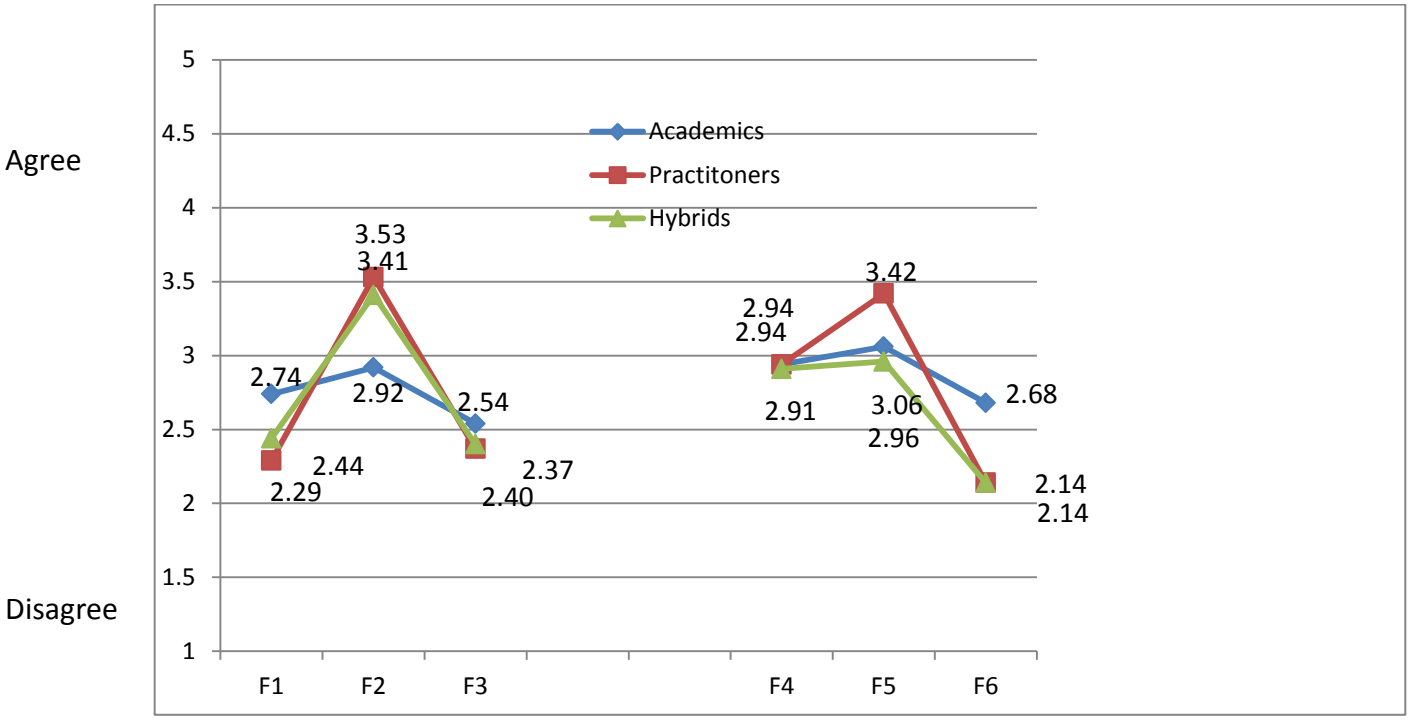
Means and standard deviations for each group by factor are in table below

Table 34 Means for each factor by academic and practitioner

		Academic	Hybrid	Practitioner
Factor 1	Confidence in academic authority, naïve realism	2.74 (.98) N=88	2.44 (.56) N=38	2.29 (.40) N=215
Factor 2	Primacy of personal experience and context or metaphorism	2.92 (.88) N=88	3.41 (.63) N=38	3.53 (.55) N=215
Factor 3	Certainty or simple knowledge or dualism	2.54 (.74) N=88	2.40 (.44) N=38	2.37 (.42) N=215
Factor 4	Justification from discipline source – objective or subjective or thinking feeling	2.94 (.66) N=88	2.91 (.50) N=38	2.94 (.45) N=215
Factor 5	Source authority – from mode 1 or mode 2 knowledge	3.06 (.73) N=88	2.96 (.91) N=38	3.42 (.70) N=215
Factor 6	Practice dialogue	2.68 (.96) N=88	2.11 (.75) N=38	2.14 (.62) N=215

Factor means are graphed below

Figure 12 Factor means compared



A one-way between groups analysis of variance was conducted to explore impact of discipline backgrounds on the factor scores identified from the Hofer DEBQ discipline focused epistemic questionnaire. Respondents were divided into 3 groups based on their discipline backgrounds. Academics were respondents whose discipline background was from the academy, practitioners came from a practice background and hybrids had a background which encompassed both practice and academic disciplines.

Table 35 Levene's Test for Homogeneity of variances

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Factor1	41.702	2	338	.000
Factor2	19.891	2	338	.000
Factor3	14.977	2	338	.000
factor4	12.869	2	338	.000
Factor5	1.472	2	292	.231
factor6	7.583	2	292	.001

The assumption of homogeneity of variances was violated, as assessed by Levene's test of homogeneity of variance (p = < .05) on factors 1, 2, 3, 4 and 6. Thus group variances are not assumed to be equal.

Table 36 ANOVA

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Factor1	Between Groups	12.38	2	6.191	16.289	.000
	Within Groups	128.47	338	.380		
	Total	140.85	340			
Factor2	Between Groups	22.98	2	11.492	26.492	.000
	Within Groups	146.61	338	.434		
	Total	169.60	340			
Factor3	Between Groups	1.68	2	.841	3.040	.049
	Within Groups	93.47	338	.277		
	Total	95.15	340			
factor4	Between Groups	.019	2	.010	.035	.965
	Within Groups	91.80	338	.272		
	Total	91.82	340			
Factor5	Between Groups	9.97	2	4.987	9.279	.000
	Within Groups	156.95	292	.538		
	Total	166.92	294			
factor6	Between Groups	11.20	2	5.602	11.456	.000
	Within Groups	142.79	292	.489		
	Total	153.99	294			

From the ANOVA table the F test is significant at the .001 level for factors 1, 2, 5 and 6. This means that at least two group means are significantly different with respect to those factors.

Robust tests are addressed below

Table 37 Robust tests of equality of means

Robust Tests of Equality of Means

		Statistic[a]	df1	df2	Sig.
Factor 1	Welch	9.247	2	79.944	.000
	Brown-Forsythe	11.811	2	138.553	.000
Factor 2	Welch	17.874	2	86.708	.000
	Brown-Forsythe	22.165	2	149.727	.000
Factor 3	Welch	1.854	2	88.284	.163
	Brown-Forsythe	2.586	2	152.181	.079
Factor 4	Welch	.039	2	88.147	.962
	Brown-Forsythe	.031	2	150.541	.970
Factor 6	Welch	6.510	2	63.099	.003
	Brown-Forsythe	8.079	2	92.116	.001

a. Asymptotically F distributed.

Factor scores were statistically significantly different between discipline background for - Factor 1 Welch's F(2, 79.94) = 9.24, p<.0005, factor 2 Welch's F(2, 86.71) = 17.87, p<0005, factor5 Levine's F(2, 292) =1.47 p<.0005 and factor 6 Welch's F(2, 92.11) =8.07, p='001

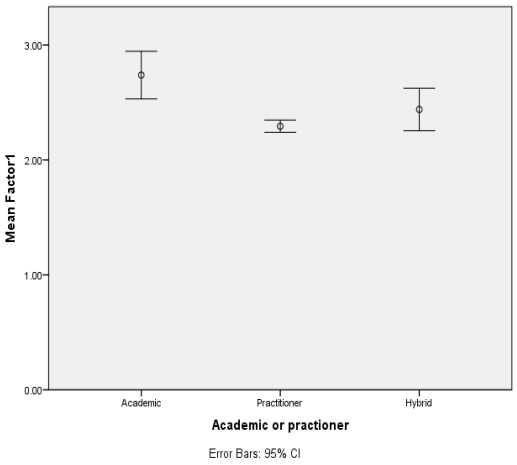
There were no statistically different factor scores with factors 3 and 4 with Welch's F at p>.05 indicated excessive heterogeneity. F ratios cannot be shown as significant indicating that significant differences between groups with respect to these factors cannot be established. Factor 3 Welch's F(2, 88.28) =1.85, p=.163 and factor 4 Welch's F(2, 88.14)=.039, p=.962

4.4.2 Error bar analysis

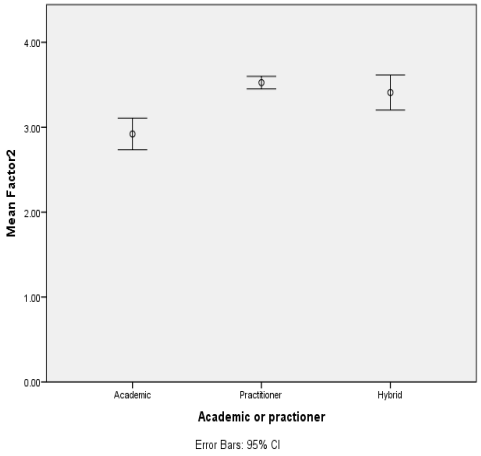
Error bars for differences in mean scores for factors 1 to 6 are below

Figure 13 Error bars for differences in mean scores factors 1-6

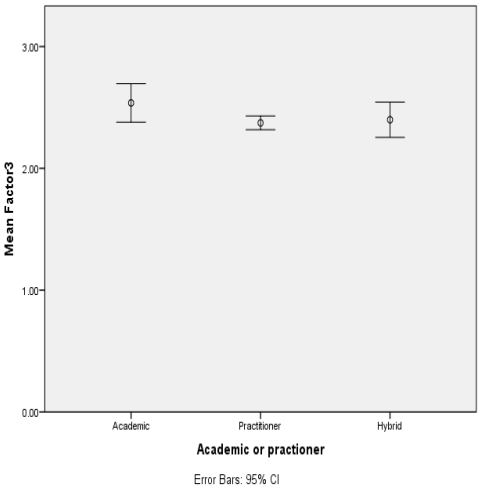
F1



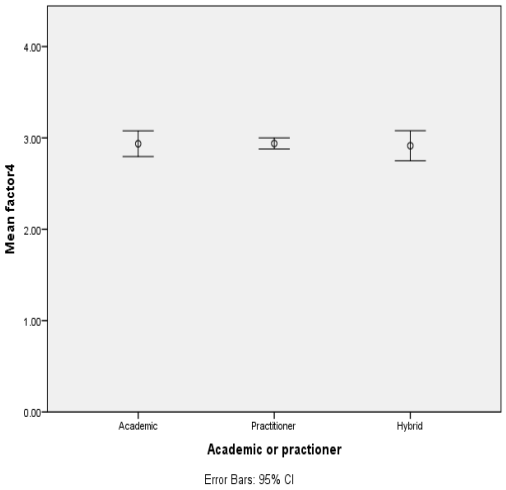
F2



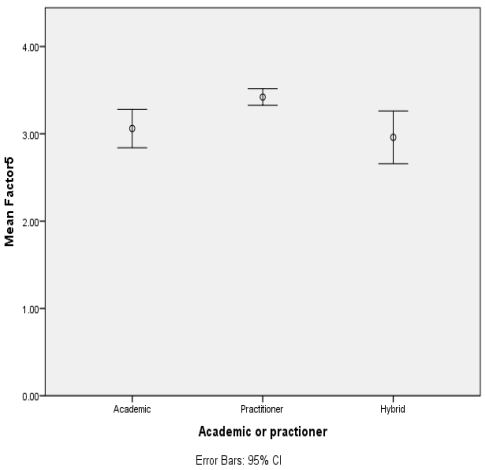
F3



F4



F5



F6

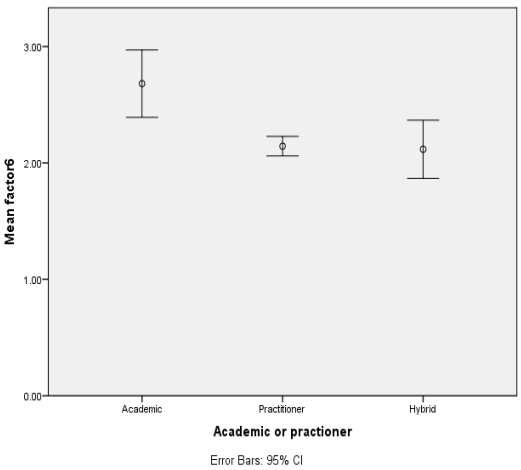


Table 38 Post hoc tests

Multiple Comparisons								
Dependent Variable				Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Factor 1	Games-Howell	Academic	Practitioner	.44514*	.10765	.000	.1890	.7013
			Hybrid	.29884	.13853	.083	-.0301	.6278
		Practitioner	Academic	-.44514*	.10765	.000	-.7013	-.1890
			Hybrid	-.14630	.09520	.284	-.3773	.0847
		Hybrid	Academic	-.29884	.13853	.083	-.6278	.0301
			Practitioner	.14630	.09520	.284	-.0847	.3773
Factor 2	Games-Howell	Academic	Practitioner	-.60513*	.10095	.000	-.8448	-.3654
			Hybrid	-.48869*	.13856	.002	-.8185	-.1589
		Practitioner	Academic	.60513*	.10095	.000	.3654	.8448
			Hybrid	.11643	.10872	.537	-.1466	.3795
		Hybrid	Academic	.48869*	.13856	.002	.1589	.8185
			Practitioner	-.11643	.10872	.537	-.3795	.1466
Factor 3	Games-Howell	Academic	Practitioner	.16329	.08456	.135	-.0376	.3642
			Hybrid	.13781	.10680	.404	-.1159	.3915
		Practitioner	Academic	-.16329	.08456	.135	-.3642	.0376
			Hybrid	-.02548	.07683	.941	-.2111	.1601
		Hybrid	Academic	-.13781	.10680	.404	-.3915	.1159
			Practitioner	.02548	.07683	.941	-.1601	.2111
Factor 4	Games-Howell	Academic	Practitioner	-.00247	.07738	.999	-.1861	.1811
			Hybrid	.02189	.10800	.978	-.2354	.2792
		Practitioner	Academic	.00247	.07738	.999	-.1811	.1861
			Hybrid	.02436	.08711	.958	-.1863	.2350
		Hybrid	Academic	-.02189	.10800	.978	-.2792	.2354
			Practitioner	-.02436	.08711	.958	-.2350	.1863

Factor 5	Games-Howell	Academic	Practitioner	-.36025*	.11933	.010	-.6468	-.0737
			Hybrid	.10165	.18476	.847	-.3409	.5442
		Practitioner	Academic	.36025*	.11933	.010	.0737	.6468
			Hybrid	.46190*	.15650	.014	.0822	.8416
		Hybrid	Academic	-.10165	.18476	.847	-.5442	.3409
			Practitioner	-.46190*	.15650	.014	-.8416	-.0822
Factor 6	Games-Howell	Academic	Practitioner	.53751*	.14985	.002	.1760	.8990
			Hybrid	.56436*	.18938	.011	.1121	1.0166
		Practitioner	Academic	-.53751*	.14985	.002	-.8990	-.1760
			Hybrid	.02686	.13048	.977	-.2894	.3431
		Hybrid	Academic	-.56436*	.18938	.011	-1.016	-.1121
			Practitioner	-.02686	.13048	.977	-.3431	.2894

Post hoc tests revealed significant differences as follows

(Note if the 'Sig' value is above .05, then the difference between the two groups is not significant, (Laerd statistics at https://statistics.laerd.com)

Factor 1. DEBQ score increased for from practitioners 2.29, +/- .4 and hybrids, 2.44, +/- .56 to academics 2.74+/-.98. Games-Howell post hoc analysis revealed that the increase from practitioners to academics (.45, 5% CI [-.7 to -.19]) was statistically significant p=.000

The increase from hybrids to academics (.30, 95% CI [-.63 to .03] was not statistically significant, p=.083

Factor 2. DEBQ scores decreased from practitioners 3.53 +/-.55 and hybrids 3.41 +/- .63 to academics 2.92 +/- .88. Games-Howell post hoc analysis revealed that the decrease from practitioners to academics (.61, 95% CI [.36 to .84] was statistically significant p=.000

The decrease from hybrids to academics (.48, 95% CI [.16 to .82]) was statistically significant p=.002

Factor 3. DEBQ scores increased from practitioners 2.37 +/-.42 and hybrids 2.4 +/- .44 to academics 2.54 +/- .75. Games-Howell post hoc analysis revealed that the increase from practitioners to academics (.16, 95% CI [-.36 to .04]) was statistically insignificant p=.135

The increase from hybrids to academics (.14 95% CI [-.4 to .12]) was statistically insignificant p=.404

Factor 4. DEBQ scores were unchanged between practitioners 2.94 +/- .45 and academics 2.94 +/- .66. There was a small decrease in DEBQ scores from hybrids 2.91 +/- .50 to practitioners and academics. There was therefore no significant difference between practitioners and academic mean DEBQ scores. Games-Howell post hoc analysis revealed that the increase from hybrids to academics (.02, 95%s CI [-.28 to .23]) was not statistically significant p=.978

Factor 5. DEBQ scores decreased from practitioners 3.42 +/- .7 to academics 3.06 +/- .73 and hybrids 2.96 +/-.91. Games-Howell post hoc analysis revealed that the decrease from practitioners to academics (.36, 95% CI [.07 to .64]) was statistically significant p=.010

The decrease from practitioners to hybrids (.46, 95% CI [.08 to .84]) was statistically significant p=.014

Factor 6. DEBQ scores decreased from academics 2.68 +/- .96, to practitioners 2.14 +/- .62, and hybrids 2.11 +/- .75. Games- Howell post hoc tests revealed that the decrease from academics (.54, 95% CI [.17 to .9]) was statistically significant, p= .002

The decrease from academics to hybrids (.56, 95% CI [.11 to 1.0]) was significant p=.011

4.4.3 Range and variation within factor data

Here we look at the variation within the data making up the factors extracted. By doing this we can examine for different extents of variation and range between academics and practitioners. Table 39 below shows the data on range and standard deviations for the data underpin factor 1

Table 39 Range and standard deviations for factors 1 to 5

Academic or practitioner		Factor1	Factor2	Factor3	factor4	Factor5
Academic	Std. Deviation	.98	.88	.74	.66	.73
Practitioner	Std. Deviation	.40	.55	.42	.45	.70
Hybrids	Std. Deviation	.56	.63	.44	.50	.91

What we find is that in every case the standard deviation for academics is greater than for practitioners

4.4.4 Conclusions

Table 40 below indicates group opinions regarding the importance of each factor relative the other group

Table 40 Opinions by group of the importance of each factor

	Academic	Hybrids	Practitioner	Difference
Factor 1	Weak influence but stronger than either practitioners or hybrids	Weaker influence than academics	Weaker influence with this factor than hybrids and academics	Significant difference Between academics and practitioners
Factor 2	Weak influence	Stronger agreement	Stronger agreement than hybrids	Significant difference between practitioners and academics and between academics and hybrids
Factor 3	Weak influence	Weaker influence than academics	Weaker influence than hybrids and academics	No significant gap between either group with this factor
Factor 4	Weak influence with this factor	Weak influence with this factor	Weak influence with this factor	No significant differences between the groups
Factor 5	Weak influence	Weaker influence than academics	Stronger influence than academics	Significant difference between practitioners and both academics and hybrids
Factor 6	Weaker influence with factor	Stronger influence with this factor	Stronger influence with this factor	Significant difference between practitioners/hybrids and academics

Interpreting these results we see that -

Academic and practitioner views on factors 1 and 2 are what theory would predict.

For factor 1 what we see is that practitioners and hybrids (means 2.29 and 2.44) are less likely to be influenced by the primacy of academic knowledge and academics more so. Group scores suggest that practitioners and hybrids are only weakly influenced by the factor and whilst the academic mean is below the median it is significantly higher than the other two groups show that

the factor is significantly more influential amongst academics. In addition academic scores show a higher standard deviation than the other groups suggesting a wider variation of views

Factor 2 scores show practitioners and hybrids means above the median and as significantly more likely to be influenced by personal experience and context than academics.

Factor 3 positions on simplicity or fact based knowledge but with both groups the different scores between the groups are not significant. Means scores for all groups are below the median position and show only a small difference and the effect is not statistically significant

Factor 4 sees no significant difference in views between the groups. Group means are below but close to the median suggesting the factor has a similar level of influence between groups.

Factor 5. Source authority. Examination of underlying factor structure indicates that academics and hybrids are significantly different from practitioners on this factor suggesting different more likely to see knowledge as emerging from academic sources or processes whilst practitioners are more likely to locate knowledge as emerging from practice.

Factor 6. Academics are significantly less likely to advise, seek advice or pass on advice from practice than either hybrids or practitioners. This suggests that academics are less likely to communicate with practice than the other two groups. This is summarised in the table below -

Table 41 Beliefs about knowledge from Hofer and Pintrich's model

What we believe knowledge is	**How we come to know**
Factors 1, 2 and 3 relate to this paradigm	Factors 4, 5 and 6 obtain here.
Groups share similar beliefs about what knowledge is but are separated by the degree of influence each factor has. Academics significantly are more likely to see knowledge as certain, absolute and simple. Although this effect is relatively weak amongst the group	Each group more likely to come to know via the evolution of simple facts, through more complex ones, culminating in justified reasoned judgement.
Hybrids show less confidence in academic knowing than do academics but more confidence than practitioners, suggesting this group are weakly influenced by academic authority	Academics and hybrids are more likely to achieve knowledge via academic sources. The most influential facts and reasoning will be directed by academic authority and is more likely to be a group property. Practitioners and hybrids are more likely to come to know through individual construction - knowing through doing and through dialogue with practice.
Practitioners are significantly more likely to see knowledge as experience or context. Hofer's metaphorism where knowledge is tacit and expressed in metaphor.	
The groups see knowledge as having a fixed element but also as dynamic or arising from local contingent situations There is slight evidence of a tendency for academics to see knowledge as fixed with practitioners and hybrids seeing it as contingent or emergent.	

Differences in standard deviations

The larger standard deviation amongst academics is an interesting finding as it shows that academics views on the extracted factors are more varied than practitioners. A wider range of views is not in itself important but in the context of attitudes to epistemic factors, greater variation is indicative of a, less consistent domain epistemology amongst academics. And indeed this finding could be seen as fitting with arguments presented earlier, in particular Khun's description of the discipline as pre-paradigmatic (Kuhn, 1977), O'Hear's (1998) criticism of failing to have a clear epistemic identity and Witrock's suggestion that the field was suffering from epistemic drift (Witrock and Elzinga, 1985).

4.5 Correlations between primary epistemic factors and explanatory dialogue factor 6

This section examines levels and direction of correlation between the primary epistemic factors and factor 6 for dialogue. The aim of the analysis is to establish the extent to which dialogue (factor 6) is connected to epistemic values (factors 1 – 5) between the two groups and also to look at the direction of the connection by group.

4.5.1 Descriptive data and results –

This section provides looks at correlations between the means for the primary extracted factors for both groups and the explanatory factor 6 - dialogue

Table 42 below shows correlation values between dialogue factor 6 and epistemic factors 1 to 5.

Table 42 Correlations between dialogue factor 6 and epistemic factors 1 to 5

Definitions for factors extracted		Correlation between with F6 Dialogue		
		Academic	Practitioner	Hybrid
Factor 1	Confidence in academic authority, naïve realism	.615	.178	.057
Factor 2	Primacy of personal experience and context or metaphorism	-.512	-.106	-.198
Factor 3	Certainty or simple knowledge or dualism	.385	.156	.030
Factor 4	Justification from discipline source – objective or subjective	-.238	-.062	-.150
Factor 5	Source authority – academic link with practice influence	.031	-.055	-.055
Factor 6	Practice dialogue			

Correlation between explanatory and primary factors was conducted using Pearson product momentum correlation coefficient. Preliminary analyses were conducted to ensure no violation of the assumptions of reliability

4.5.2 Factor 1 Correlation with dialogue factor 6

There is a much stronger correlation between factor 6 and factor 1 for academics than practitioners. Factor 6 was found to correlate strongly with factor 1, r= .615, p<.05 for academics, but more weakly with practitioners

r=.178, p<.05. There was no significant correlation between the factors for hybrids and significance was weak.

Correlations

Academic or practitioner			factor6	Factor1
Academic	factor6	Pearson Correlation	1	.615**
		Sig. (2-tailed)		.000
	Factor1	Pearson Correlation	.615**	1
		Sig. (2-tailed)	.000	
Practitioner	factor6	Pearson Correlation	1	.178**
		Sig. (2-tailed)		.009
	Factor1	Pearson Correlation	.178**	1
		Sig. (2-tailed)	.009	
Hybrid	factor6	Pearson Correlation	1	.057
		Sig. (2-tailed)		.735
	Factor1	Pearson Correlation	.057	1
		Sig. (2-tailed)	.735	

**. Correlation is significant at the 0.01 level (2-tailed).

An academic who is more likely not to have practice dialogue correlates with increasing confidence in academic authority or naïve realism, or the more likely academic dialogue occurs with practice, the more likely they are to repudiate naive knowledge

4.5.3 Factor 2 Correlation with dialogue factor 6

Factor 6 was found to have a strong negative correlation with factor 2, r= -.512 for academics, p<.05, but the result was not significant for practitioners or hybrids.

Correlations

Academic or practitioner			factor6	Factor2
Academic	factor6	Pearson Correlation	1	-.512**
		Sig. (2-tailed)		.000
	Factor2	Pearson Correlation	-.512**	1
		Sig. (2-tailed)	.000	
Practitioner	factor6	Pearson Correlation	1	-.106
		Sig. (2-tailed)		.124
	Factor2	Pearson Correlation	-.106	1
		Sig. (2-tailed)	.124	
Hybrid	factor6	Pearson Correlation	1	-.198
		Sig. (2-tailed)		.239
	Factor2	Pearson Correlation	-.198	1
		Sig. (2-tailed)	.239	

**. Correlation is significant at the 0.01 level (2-tailed).

This suggests, for academics that as scores for the likelihood of connection with practice fall which with the scale polarity makes practice involvement more likely, then scores for primacy of experience increase. This suggests academic involvement in practice can alter their epistemic position on factor 2.

4.5.4 Factor 3 Correlation with dialogue factor 6

Correlations

Academic or practitioner			factor6	Factor3
Academic	factor6	Pearson Correlation	1	.385**
		Sig. (2-tailed)		.009
	Factor3	Pearson Correlation	.385**	1
		Sig. (2-tailed)	.009	
Practitioner	factor6	Pearson Correlation	1	.156*
		Sig. (2-tailed)		.023
	Factor3	Pearson Correlation	.156*	1
		Sig. (2-tailed)	.023	
Hybrid	factor6	Pearson Correlation	1	.030
		Sig. (2-tailed)		.859
	Factor3	Pearson Correlation	.030	1
		Sig. (2-tailed)	.859	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Factor 3 was found to have a medium correlation with factor 6, r= .385 for academics, p<.05, for practitioners there was a small correlation with factor 6 r=.156, p<.05. For hybrids the small correlation value lacked significance

This suggests that with the scale polarity, that certainty for academics, increases as practice dialogue decreases. The corollary is that certainty/simple knowledge decreases with practice dialogue

4.5.5 Factor 4 Correlation with dialogue factor 6

With p>.05 correlation with F4 at -.238, means a weak inverse correlation exists between F4 and 6 with either academics or practitioners

Correlations

Academic or practitioner			factor6	factor4
Academic	factor6	Pearson Correlation	1	-.238
		Sig. (2-tailed)		.115
	factor4	Pearson Correlation	-.238	1
		Sig. (2-tailed)	.115	
Practitioner	factor6	Pearson Correlation	1	-.062
		Sig. (2-tailed)		.369
	factor4	Pearson Correlation	-.062	1
		Sig. (2-tailed)	.369	
Hybrid	factor6	Pearson Correlation	1	-.150
		Sig. (2-tailed)		.375
	factor4	Pearson Correlation	-.150	1
		Sig. (2-tailed)	.375	

With practitioners and hybrids the correlation is also weak r=-.062 and r=.-.150 respectively with p>.05. Although both significance level and correlation are weak, their directions have some indication of how the factors influence each other. With the polarities involved the inverse correlation shows that the likelihood of dialogue increases with agreement with factor 4 – justification from discipline source, objective or subjective. Or as dialogue with practice decreases for academics then they are more likely to disagree with justification from academic discipline source. However the level of significance found leaves this interpretation as speculative

4.5.6 Factor 5 Correlation with dialogue factor 6

Correlations

Academic or practitioner			factor6	Factor5
Academic	factor6	Pearson Correlation	1	.031
		Sig. (2-tailed)		.841
	Factor5	Pearson Correlation	.031	1
		Sig. (2-tailed)	.841	
Practitioner	factor6	Pearson Correlation	1	-.055
		Sig. (2-tailed)		.422
	Factor5	Pearson Correlation	-.055	1
		Sig. (2-tailed)	.422	
Hybrid	factor6	Pearson Correlation	1	.055
		Sig. (2-tailed)		.747
	Factor5	Pearson Correlation	.055	1
		Sig. (2-tailed)	.747	

With r=.03, p>.05 for academics, practitioners r=-.055, and hybrids r=.055, p>.05 in both cases indicates values which are insignificant.

4.6.6.1 Correlation Conclusions.

Table43 below summarises the correlation analysis findings

Table 43 Summary of correlation findings

Increased academic dialogue with practice	Decreased academic dialogue with practice
F1 increases propensity to repudiate simple explicit knowledge	Increased confidence in academic authority
F2 Importance of practice experience increase with dialogue	Importance of practice dialogue decreases as dialogue decreases
F3 Accumulation of fact becomes less important	certainty in academic static knowledge decreases with dialogue
F4 Shows a propensity for belief in existing (fixed) knowledgebase to decrease	increases the likelihood of justification from academic sources

Overall correlation analysis suggests that propensity for practice dialogue has a stronger effect on academics epistemic positions than on practitioner's positions. Hybrid values mostly lacked relationship strength and significance possibly due to the small sample size

Looking at factor 1 we see that a likelihood of dialogue decrease corresponds to an increased belief in academic authority/naïve realism. Academics exposed to practice dialogue become distanced from academic epistemic views on the importance of academic knowledge. Correlations between academics and factor 2 have a similar effect. Here practitioners relate to the primacy of personal experience over explanation and with exposure to practice dialogue academics move toward the practitioner position. Correlations with factor 3 show the same pattern. Here for academics certainty in factor 3 – certain simple knowledge declines with practice dialogue, again moving towards practitioner's scores. For factor 4 academics justification for their views strengthens with dialogue although significance here is weak. Interpreting this as increased confidence seems acceptable but confidence in what is an outstanding question

Hybrid scores show no significant correspondence with factor 6 which suggests that dialogue with practice in not influential in their epistemic views.

4.5.7 Correlations with classification variables

Here we examine for correlation between the extracted five epistemic factors and the classification variable Q5 which asks about extent of practice experience.

Q5. Which of the following best describes your level of practice marketing experience?

- No practice experience (1)
- Limited practice experience (2)
- Intermediate practice experience - (3)
- Significant marketing experience (4)
- Extensive practice experience (5)

Table 44 Correlations between factors and levels of marketing experience

		Factor1	Factor2	Factor3	factor4	Factor5
Level of practice marketing experience	Pearson Correlation Significance	-.262** p<.05	.302** p<.05	-.026 p>.05	.104 p>.05	.155* p<.05
	N	289	289	289	289	289

For factor 1 a moderate negative correlation exists, r=.262, p<.05. This suggests that as practice experience decreases agreement with F1 – confidence in academic authority – increase and the reverse. This supports the earlier finding from the correlation of F1 with F6 for academics showing that lack of connectedness with practice resulted in stronger belief in academic authority

For factor 2 a small positive correlation obtains, r=.302, p<.05. This shows that belief in the primacy of personal experience rises with practice experience For factor 3 sees small negative correlation, r=-.026, p>.05. The results lack significance

For factor 4 sees only an insignificant correlation with practice experience, r=.096, p>.05. There was also no significant difference between groups with this factor. The factor relates to justification from discipline source.

Factor 5 sees a medium correlation with practice experience r=.155, p<.05. This suggests that the greater the extent of practice experience the lower the extent of academic source authority.

4.5.8 Analysis by group

Whilst the previous section examined the overall correlations between factors and extent of practice experience, this section separates the two groups.

Table 45 Correlation by factors by between groups

Academics		Factor1	Factor2	Factor3	factor4	Factor5
	Pearson Correlation	-.584**	.526**	-.269*	.125	.049
	Sig. (2-tailed)	.000	.000	.036	.338	.711
Practitioner		Factor1	Factor2	Factor3	factor4	Factor5
	Pearson Correlation	-.232**	.134*	-.049	.017	.104
	Sig. (2-tailed)	.000	.045	.465	.800	.123

Academic tend to show stronger levels of correlation between factors and extent of practice experience although the directions are common. This parallels earlier correlation findings between factors and dialogue. The findings above reinforce the overall findings in table 45 above but reinforce the conclusions in respect of academics. The next section discusses the results.

Chapter 5.0 Discussion, Conclusions and Recommendations

This work has added to the body of research on the academic practitioner gap by addressing its epistemic base and by identifying the epistemic factors underpinning academic and practitioner's personal epistemologies and establishing where differences and similarities lie between the respective epistemic views of academic and practitioners. Further although beliefs about epistemic knowledge in academic domains have been addressed, this is not the case in professional domains (Fives, 2004). This study addresses that disparity.

5.1 Conclusions

The main significant finding is that the DEBQ provides a five factor structure model describing the epistemic views of marketing academics and practitioners and hybrids and a sixth explanatory factor. The factors identified bear some similarity with Hofer's but are underpinned by a unique item structure. There is a significant gap between academic and practitioner scores revealing a dichotomous structure to factors 1, 2 and 5, analysis of which reveals the different influences on the way academics and practitioners see the nature of knowledge and how they arrive at knowledge

Significantly however whilst some gaps between academics and practitioners showed statistical significance, the groups did share similar factor scale orientations on some factors but were more separated on different sides of factor dichotomous scales on others. This suggests that academics and practitioners share some similar beliefs in what knowledge is and how they come to know but show some significant separations on some of the factors that make up these structures

The third main conclusion is the emergence of a group named hybrids who comprise academics with substantial practice experience. This group tends to share its main epistemic outlooks with practitioners rather than academics but

generally their factor scores are positioned between practitioners and academics with the exception of factor 5.

Also significant is the identification of a separate and unique factor not identified in other epistemic studies but which concerns the influence of dialogue in influencing epistemic views of academics. Factor 6 relates to practice dialogue and concerns levels of involvement with practice. It is very significant to note that correlating this factor with knowledge factors shows that academic epistemic views move toward those of practitioners as dialogue with practice occurs. This is highly significant finding in respect of identifying ways of closing the TP gap. Practitioner/hybrid views are much less likely to change with dialogue suggesting a more stable epistemic position. The fact that academic views are susceptible to change suggests that academics may find that dialogue and collaboration with practitioner produces a greater degree of epistemic work.
These main findings do suggest that the academy is an epistemically diverse place and agentic influences based on discipline origins will pay a role in views on knowledge.

The following sections discuss these conclusions.

Conclusion 1. A five factor structure underpins epistemic beliefs for academics and practitioners.

Conclusion 2. That there is a significant gap between academics and practitioners on factors 1, 2, 5 and 6 showing that an epistemic gap between the two groups exists. Factors 1, 2, 5 and 6 are dichotomous between the two groups whilst factors 3 and 4 appear common

Conclusion 3. However there are similarities between academics and practitioners/ hybrids beliefs in what knowledge is and how they come to know.

Conclusion 4. The sixth factor extracted reveals the significance of dialogue in closing the epistemic gap between the two groups

Looking at the conclusions in more detail -

A common factor structure but significant gaps between the groups on some factors.

The five factor structure that underpins epistemic beliefs for, marketing and academic practitioners is shown below and significantly there is a significant gap between academics and practitioners on three of the factors –

Factor 1	Confidence in academic authority, naïve realism
Factor 2	Primacy of personal experience and context or metaphorism
Factor 3	Certainty or simple knowledge or dualism
Factor 4	Justification from discipline source – objective or subjective
Factor 5	Source authority – academic link with practice influence

The final description of the identified factors fall out of a combination of the elements of Wilkinson and Hofer and the question items underpinning the identified factors. Interpreting these results we see that -

Factors 1 and 2 taken together are quite similar to Hofer's 'certainty of knowledge' factor (see table 4). Interpretation of the items underling these factors relate of knowledge as arising from academic certainty or practice context, or as absolute or contextual.

Academic and practitioner views on factors 1 and 2 are what theory would predict. For factor 1 what we see is that practitioners and hybrids are less likely to be influenced by the primacy of academic knowledge and academics more so. Group scores suggest that practitioners and hybrids are only weakly influenced by the factor and whilst the academic mean is below the median it

is significantly higher than the other two groups show that the factor is significantly more influential amongst academics. Factor 2 relates to confidence in personal experience in practice or context and here practitioners and hybrids scored significantly higher, indicating that they are more likely to see knowledge as derived from context and personal experience of doing

Factor 3 has overtones of Hofer's certain simplicity of knowledge factor. Means show only a small difference between groups but the gaps between the groups do not show significance. Factor scores suggest the factor has only a weak influence

Factor 4 suggests that justification for belief comes from discipline background – objective (academe) subjective (practice). The items generating the factor suggest Unger's (1986) AAR scale factors of constructivism and positivism and also reflects Hofer's justification of knowledge dimension with knowledge coming from a journey from dualism to a mulitiplistic situation of 'knowing' via reasoned judgement. In this case reasoned judgement refers to what is right based on, authority, evidence and expertise (Hofer, 2006). Group means are below but close to the median suggesting the factor has only a weak influence on the groups. The factor sees no significant difference in views between the groups

Factor 5 is similar to Hofer's source of knowledge factor and represents the authority of knowledge which originates outside the self. This could be based on collective external knowledge or as arising from interaction with the environment. For practitioners this factor is significantly more influential.

Factor 6 has no bearing on knowledge but relates to extent of engagement in practice dialogue. Academics are significantly less likely to advise, seek advice or pass on advice from practice than either hybrids or practitioners. This suggests that academics are less likely to communicate with practice than the other two groups

Conclusion 5

Here we look at the emerged factors and what they tell us about what individuals believe knowledge is and how they come to knowing.

A. What academics and practitioners believe knowledge is

Factors 1, 2 and 3 tell us about what academics, practitioners and hybrids believe marketing knowledge is (see table 5). Interpretation of the items underling these factors relate to knowledge as arising from academic certainty or practice context, or as absolute or contextual. Factor items suggest that academics are more likely see to be influenced by academic authority as based on academic agreement. Practitioners however tend to see knowledge as contextual, emergent and tentative. With hybrids taking a position in between the two.

Factor 3 simplicity/certainty of knowledge score suggest the continuum of knowledge development from factual to integrated has only a weak influence on terms of beliefs about knowledge

An approach to knowledge from authority does uphold Kuhn's argument for knowledge as a group property as well as being suggestive of an objectivist epistemology which sees' knowledge as codifiable. Such a position would reinforce epistemic essentialism and the view that other knowledge is less legitimate. This is Cook and Browns (1999) epistemology of possession
The practitioner position from doing and has familiarities with Dewey's idea of productive enquiry, or 'knowing' in terms of the practice based epistemologies or Ryle, Cook and Brown's epistemic work or Orlikowski's 'knowledgeability'. The groups all see knowledge as comprising fixed and dynamic elements.

B How academics and practitioners come to know

How the two groups come to know arises from similarities and differences on factors 4, 5 with factor scores being significantly different on factor 5.

Factor 4 emerges as similar to Hofer's justification for knowledge with knowledge coming from a journey from dualism to a mulitiplistic situation of 'knowing' via reasoned judgement. In this case reasoned judgement refers to what is right based on, authority, evidence and expertise (Hofer, 2006) along a dimension relating to fixed to contingent knowledge bases and with knowing justified from background, domain authority and experience. With factor 4 only weakly influential on all groups, domain or local authority is a weak influence. This suggests that academics for example are only weakly influenced by their domain background which suggests that agentic influences in the TP gap can be addressed with the right structural arrangements

But in factor 5 coming to know from knowledge originating outside the self is for practitioners significantly more influential, especially when constructed through interaction with the environment. Alternatively factor items here suggest that academics and hybrids are more likely to come to knowing outside the self from academic authority transmitted from academic sources especially where dialogue with practice is absent

Conclusion 6

A unique factor (6) was identified and this revolved around extent of practice dialogue. It is reflective of an approach to understanding the academic practice gap through dichotomies, in particular those relating to mode 1 and 2 knowledge, tacit or explicit knowledge. Also crucially the factor when correlated against the others reveals that a propensity to engage in practice dialogue has the effect of moving academics toward the epistemic positions of practitioners. So the factors significant effect is to act as a force to close the gap between academics and practitioners. Of course a vital component of tacit knowledge is dialogue and Nonaka's spiral of knowledge argues that (Nonaka, 2005) academic research embedded in the academic community limits their ability to produce new knowledge at a higher ontological level. This finding that shows the importance of dialogue in moving academics towards the epistemic position of practitioners and adds significant, quantitative support to Nonaka's argument that lack of relevance in academic research is

inherent and maintained in the absence of dialogue. Such absence also crucially hinders the emergence of 'epistemic work in practice' from research which leaves research at a lower epistemic level as a result (without getting into the argument about whether such development is at an ontological or epistemic level. I believe that the capacity of dialogue to effect additional work in practice, locates the argument at an epistemic level). This argument has support. For example based on a survey of academics and practitioners, Shapiro established that 2 way dialogue is a key issue in closing the theory practice gap (Shapiro et al, 2007)

Table 46 below summarises the factor correlation interpretations

Table 46 Summary of factor correlation interpretations

	factor 6 correlations outcome	factor correlations with practice experience
factor 1 Confidence in academic authority, naïve realism	confidence in academic authority rises as propensity to engage in practice dialogue falls	as practice experience decreases agreement with F1 increase and the reverse- stronger in academics
factor 2 Primacy of personal experience, context or metaphorism	if academics do not engage in practice dialogue then the primacy of experience is less important to them.	belief in the primacy of personal experience rises with practice experience – stronger in academics
factor 3 Certainty, simple knowledge or dualism	increasing amounts of dialogue correspond to increases in certainty for academics.	as experience increases belief in certain or simple knowledge falls - stronger in academics
factor 4 Justification from discipline source – objective or subjective	justification from discipline source increases with likelihood of practice dialogue	only an insignificant correlation with practice experience. There was also no significant difference between groups with this factor. The factor relates to justification

		from discipline source
factor 5 Source authority – academic link with practice influence	unlikelihood of dialogue increases with the likelihood of seeking advice from text or academic sources	a medium negative correlation with practice experience. This suggests that the greater the extent of practice experience the lower the extent of academic source authority – stronger in practitioners

Correlating factor 1 with factor 6 (propensity to engage in practice dialogue) shows that as confidence in academic authority rises then propensity to engage in practice dialogue falls which supports a naïve realism factor Correlation analysis showed a strong negative correlation for academics against factor 6. This suggests (given the polarity of Q6) that if academics do not engage in practice dialogue then the primacy of experience is less important to them. This again reinforces the argument that dialogue, tacit knowledge or mode 2 working all inherently dialogue based can act to reduce the gap between academy and practice, which is a significant finding.

Factor 3. There was no significant gap between academic and practitioners on this factor. An eta squared test (Pallant) showed that only a small proportion of the variance of F3 is explained by F6. But the finding is interesting. Given the polarity of F6 items, we see here that increasing amounts of dialogue correspond to increases in certainty for academics. This was not a significant finding for practitioners who are likely to be embedded in dialogue anyway but suggests that academics can move to a more practice orientated perspective through dialogue. Such a finding shows that the academic practitioner gap is bridgeable and also suggests that the relevance gap can be addressed via dialogue. This view is supported by for example Nonaka and others particularly those supporting the mode 1 and 2 perspective to knowledge. Drawing on Giddens structuration theory Morhman et al (2001) argue that shared perspectives through dialogue can act to overcome the relevance gap.

Factor 4. No significant differences exist between academics and practitioners on this factor. However there is a weak inverse correlation between academics and factor 6 dialogue with practice. That justification from discipline source increases with likelihood of practice dialogue It is hypothesised that it relates to the attainment of the truth factor identified by Hofer but that factor failed to emerge as in Hofer.

Factor 5. Correlation with dialogue factor 6 shows small positive and negative correlations for practitioners and academic respectively. This suggests that with the polarity of section 8 that unlikelihood of dialogue increases with the likelihood of seeking advice from text or academic sources. This supports earlier findings about the role of dialogue in reducing the gap between the two groups.

Factor 5 also shows a medium negative correlation with factor 1 for practitioners. Here the more unlikely practitioners are to see academics knowledge as a source of authority the less confidence they have in factor 1 which is confidence in such authority. Apart from providing a good internal corroboration for factor 1's findings of a gap there between academics and practitioners this result also shows that use of different sources of authority of knowledge exists between the two groups.

Interpreting these findings we see that as propensity to engage in dialogue increases then academics tend to move towards the epistemic position of practitioners. This suggest that dialogue plays a crucial role in maintaining the gap (its absence) or closing it

5.2 Final Discussion.

The study successfully identified a common set of epistemic factors for practitioners and academics. ANOVA analysis identified some similarities in how and differences in what the groups believe knowledge is and how they come to know. Hybrids largely mirrored practitioner's views, although the

strength of their epistemic views was usually slightly shifted toward the position of academics. Correlation analysis showed that the gap between the two main groups is reduced by dialogue which matches views from theory. Dialogue has no significant effect on the epistemic positions of hybrids. The research establishes that domain focused epistemic beliefs play a role in the academic practitioner gap. However the effect is not as strong as some writers suggested and would not appear to be unbridgeable.

Having established that an epistemic gap exists and its dimensions and the arguments for developing an epistemology that increases the level of epistemic work that current academic epistemologies provide, the next section looks at means closing the TP gap

The methodology adopted in this analysis has been triangular. We have compared quantitative and qualitative material from primary research and literature. We have compared epistemic positions and know something about an epistemology of practice. In particular we know it must be embodied in practice, see tacit and explicit knowledge as inseparable and multidimensional and be situated in context. So much is clear from theory. The next stage is the movement from objectivist/constructivist to a postmodern epistemology of theory-practice embodying these features. So to understand what we consciously do in action researcher's need to reflect on the norms and values which shape the collective understanding at a point in time. Schon's 'refection in action' (see p101) provides a partial solution. Partly because as Gilroy (1993) argued it falls victim to Meno's paradox of infinite regression of reflection but crucially because reflection does not necessarily include dialogue and action in practitioner practice. Schon's description of the 'reflective practitioner' being characterised by 'knowing in action' and 'reflection in action', does not of necessity require reflection of any more than the practice of the researcher, it does not require the inclusion of business practice. Indeed Hackley (1999) expresses the argument thus – *"The transition from positive premise to normative prescription is a classical epistemological dilemma..... what strategic marketing management, along with other practical fields of codified theory, has not satisfactorily addressed"*.

An empiricist descriptive epistemology has been suggested as a possible solution to Schon's dilemma by Heyes and Hull (2001) but such a solution raises criticisms of what constitutes experience and leaves less room for theoretical enquiry. Critically as Raelin (2007, p497) argues, it is our practices which reinforce our behaviours and structures and these in turn constrain our future actions. Hence some means of moving research outside conventional practice is required. A number of researchers from Schon to Dewy to Cook and Brown have outlined the shortcomings of conventional academic epistemologies and presented more or less sound models of epistemologies of practice or theory-practice. But defining alternative epistemologies without defining a mechanism for their adoption is a limited response. Others including Bendixen and Rule's (2004), model of epistemic doubt leading to the volition to change or Cook and Brown's (1999) concept of dynamic affordance, have put forward ideas to act to close the gap. But to limited practical effect to date. However their ideas do I believe offer a means of addressing the TP gap. First locating the problem as solely epistemic is I believe inadequate in terms of framing a solution. Nor do I want to suggest that all research should have practitioner outcomes, hence academic epistemology is about choice directed by the structural and agentic issues already discussed. Second a means of instantiating and directing change needs to be developed.

In addressing these issues it is clear from my own findings that dialogue plays a crucial role in closing the TP gap. The correlation results make this clear. So dialogue is part of any solution. Indeed Cook (1999) argues that dialogue is a vital means of bridging epistemologies, although no quantitative evidence is put forward. Such evidence has now appeared here and supports Cooks argument. And also significantly Cook argues that dialogue between practice and research does epistemic work. But we need more than dialogue alone. I propose that the additional means of using dialogue to instantiate and direct epistemic change lays in transparency, or understanding the respective positions and what constitutes value on both sides. And transparency is a feature of an approach called introspection. Introspection is a key concept in epistemology (The Stanford Encyclopaedia of Philosophy, 2010). It concerns

the issue the condition of one's own mind, in terms of self-knowledge, beliefs, intentions or evaluations. Raelin (2007) actually comes to this conclusion himself, by arguing for an "*introspection of self, interpersonal phenomena and the creation of learning environments that facilitate discovery"* in addressing the issues of moving individuals epistemic values, although he does not expand beyond further. However the addition of dialogue would strengthen the process of introspection and therefore I propose the following model for closing the TP gap. Bendixens model of epistemic doubt leading to the volition to change provides a model of epistemic change. But it does not provide a mechanism for instantiating the start and direction of the process. Nor does their process lead to epistemic work. However the addition of dialogue which as seen is a motivator to the closure of the epistemic gap could be such an instantiator and as the dialogue is with practitioners it has the potential to lead to additional epistemic work, through the inclusion of context and practitioner orientation. I propose the addition of introspection, as the means of turning dialogue into epistemic doubt and volition. Such a process would provide the capacity to generate epistemic work by closing the TP gap but has the advantage of not being prescriptive and enforcing conformity. I would argue that such an approach has the capacity to produce a mature epistemology of theory-practice, which can close the TP gap and do epistemic work.

The model I have called dialogic introspection is shown below

Figure14 Dialogic introspection as a means of closing the TP gap

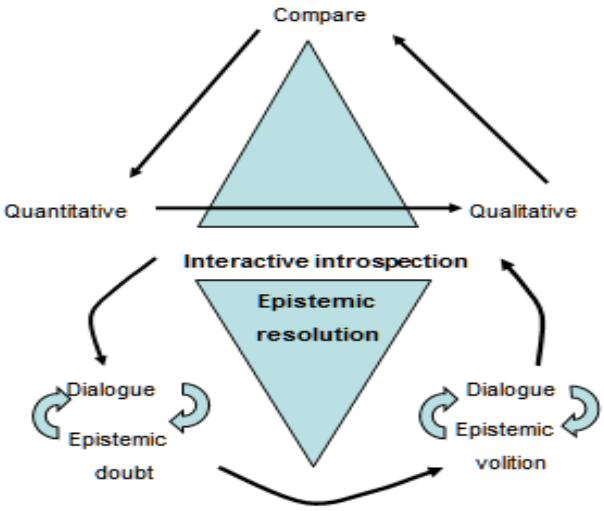


Fig 14 above models how the initial triangular approach used in the first triangle shows how quantitative and qualitative research have worked together in a form of methodological triangulation. The quantitative results show that dialogue with practice has a clear effect on academics epistemic views, moving them closer to practitioners. This is attached to Bendixen's method of changing epistemologies and through introspection is the means of sowing epistemic doubt and subsequent volition to move to an epistemology of added work. Hence epistemic work is achieved through dialogue and introspection. The solution to how we move from comparing in a research situation, to a new epistemic model is illustrated in the second triangle which points towards introspection as a solution, mediated by dialogue creating epistemic doubt, then volition leading to resolution strategies. Such strategies are likely to orientate toward practitioner epistemic aims through the process of dialogue.

Introspection is a means analysing one's own values, experiences, thoughts and behaviours (Gould, 1995) using the provision of verbal data as the process of analysing issues available only to oneself. It has been suggested (Virtanen 2011, Wallendorf, 1993) that introspection is a useful tool for explaining social research in terms of converting tacit to explicit knowledge.

And it is the congruence of arguments for its use both in externalising tacit knowledge (Virtenen, ibid) but also by Raelin (2007) as a means of developing an epistemology of practice based on reflection, that suggests it as a solution to the problem of changing epistemological perspectives. By adding the voice of dialogue, such an approach fits well with a postmodernist agenda. It finds a voice for practice and reflects Cook and Brown's and Orlikowski's epistemological conditions.

Wallendorf (1993) describes five types of introspection. But the need for dialogue suggests in particular that interactive introspection which requires a sharing of experience, a search for empathy culminating in a shared understanding is the most useful. An epistemology of 'dialogic introspection' is shown in the model above. The model draws from Bendixen and Rules (2004) argument for the need for epistemic doubt to create sufficient dissonance to create epistemic volition for the adoption of a new epistemological solution. Bendixens model did not in my view contain a sufficient explanation of how epistemic doubt and subsequent volition could be seeded. Findings here about the centrality of dialogue in moving academics towards practitioners epistemic views shows that that necessary seed is dialogue but dialogue mediated by interactive introspection with practice. Interactive introspection involving dialogue leads to epistemic doubt, volition and ensures a voice for practice. In particular dialogic introspection addresses some of the weaknesses of Schon's reflective practitioner as well as providing opportunities to avoid Dewey's spectator trap. Dialogic introspection supports Dewey's epistemology in which knowledge becomes tangible as a 'warranted assertion' through the context of 'concrete actions in the world' through dialogue, and provides for weak epistemic work to transformed into strong through its ability to externalise tacit knowledge into explicit but in a practice context.

5.3 Recommendations

5.3.1 Implications for theory

This research seeks to broaden understanding of what constitutes epistemologies of academic and practice marketers and to identify any gaps in their respective epistemologies. This has been accomplished. A model for closing the gap using dialogic introspection has been proposed. This section discusses some of the issues raised by the research and their implications for further research

Whilst the results show that academics and practitioners do share some elements of epistemic perspective but the significant gaps on some factors identified have implications. In particular I am interested in how the epistemic gaps found contribute to a lack of epistemic development.

In Cook, Dewey, Schon and Orlikowskis's arguments, knowing is a deeply epistemic effect based on the inseparability between knowing and knowledge. But also that this inseparability is function of embodiment in practice. And that further such embodiment can do epistemic work that simple knowledge alone is incapable of. Having established the dimensions of an epistemology of theory-practice in this research and the gap between academics and practitioners, what is left is a means of closing the gap. This research proposes an epistemology of dialogue and introspection and this provides an opportunity for further research to explore how such an epistemology could be expressed in practice. The proposed epistemology has the effect of providing for Dewey's warranted assertions through its context but also provides an opportunity for Cook's dynamic affordance to be realised. The concept of 'affordance' relates to how a concept 'affords' action in the world. Introspection mediated by dialogue provides a means of identifying such affordance and inherently will include both tacit and explicit forms of knowledge through the use of dialogue. I would propose therefore that dialogue and introspection become part of the toolkit for academic marketing

researchers and certainly further research on the process and methods of introspection will be required to enable this.

Beliefs in what knowledge is between the groups reflect what theory would predict, that broadly academics are influenced by academic rigour and practitioners by context and application. However despite significant gaps in factor scores on two of the three factors the overall factor scores suggest that the effect of the factors is not overridingly strong. This suggests that were structural incentives put in place then overriding agentic and epistemic positions of academics is not impossible.

Factor 5 or source authority relating to the origination of knowledge from outside through interaction between the knower and their world. Academics and hybrids share similar positions on this factor but practitioners are more strongly influenced by it. In coming to know the source of academic knowledge which emphasises internal (academic) authority would favour Ryle's (1971) knowing 'that' and would flourish more in an environment of academic stability. However such an objectivist epistemology effectively stops the journey at dualism. Constructivism can go further along the road to 'knowing' but in the absence of dialogue or involvement with practice, academics are blocked from going further toward addressing the limitations of these epistemologies by adding the element of' 'knowing in action' proposed by Dewey, Ryle, Cook, Orlikowski and Schon and others. Whereas the practitioner journey to justified knowing comes from applying theory with practice, is individually constructed in a situation of action mediated via dialogue which is inherently multiplistic. This addresses the limitations of earlier epistemologies and offers an epistemology capable of doing higher levels of epistemic work. This does argue that the absence of both dialogue and an orientation toward application or applied results leaves academics in a weakened epistemic position. The need for academic approval therefore and not approval from practice as well, emphasises a more limited epistemology of knowledge rather than knowing. Such an epistemic position prevents academics moving to a higher level of epistemic work that matches epistemologies of other professionals like medicine. It is therefore inherently

less useful (in wider contexts) and at a lower epistemic level which provides same support for Tight or O'Hear's description of the discipline as pre-paradigmatic or lacking a clear epistemic identity, or the epistemic drift of Witrock and Elzinga. Such arguments bring to the forefront the need to better understand the nature of epistemic work. Augier and March point to the indeterminate identity that business schools have compared to schools of other professional disciplines like law or medicine. This argument coupled with those above raise the issue of why for example medicine and law have apparently stronger epistemic identities. The answer lays in the nature of Cook's epistemic work. Weak or simple epistemic work (taking Dewey and others notions of knowledge transformation) is the acquisition of knowledge whilst strong or complex epistemic work is the transformation of knowledge into practice doing. Law or medicine seeks to perform stronger epistemic work by transforming knowledge into practice. This argument supports Dewey's epistemology in which knowledge become tangible as a 'warranted assertion' through the context of 'concrete actions in the world', or weak epistemic work can be transformed into strong through its ability to address a real world problem. The use of dialogic introspection is a means of accomplishing a transition to a state of Cooks (1999) dynamic affordance which is their means of doing epistemic work 'in the world' which academic epistemologies of knowledge alone cannot achieve.

The process of Introspection coupled with practice dialogue, provides an opportunity to accomplish epistemic work that cannot be done in its absence. Dialogic introspection fundamentally demands the intermingling of tacit and explicit knowledge creating Cooks dynamic affordance through the intermingling of epistemologies of possession and practice. This argument makes the clarification of what is meant by weak-simple, strong complex epistemic work important area for further research by business schools and its resolution will influential in developing a stronger law or medicine like, epistemology

The use of Hofer's DEBQ (2000) is advanced through its tailoring for use in academic and practice environments research should concentrate on refining

the data collection instrument to improve reliability and its ability to clarify the constructs extracted. Such an instrument would help researchers investigate the role of epistemic beliefs in different communities and contexts and even allow for a reductionist theory of epistemic conflict to emerge. Further research into the item sub factors supporting the emerged factors could usefully inform better understanding of the underpinnings of the main dichotomies identified.

The gaps in epistemic beliefs and how these influence beliefs in knowledge and coming to know do provide evidence showing that the TP gap is somewhat underpinned by epistemic difference. However factor scores tend to be low which suggest that epistemic views overall may only be weakly influential which itself may explain their propensity to change with dialogue. This suggests that the gap is also maintained by structural and other agentic influences. This suggests that further research could profitably concentrate on the internal political and social issues that inhibit academics from closing the gap in the UK. In particular a stronger understanding of an epistemology of marketing practice would enable the TP gap to be explored in more detail and be influential in influencing the academic community to address practice issues.

However similarities in the way the groups view and come to knowledge also suggest that the perverse incentives involved in publishing based in rigour over relevance and other structural barriers also provide a significant disincentive to closing the gap. The academy's need to maintain a difference between itself and other knowledge providers can unless a careful balance is maintained act to deepen the gap between theory and practice especially in faculties orientated around 'academic' rather than instrumental values. Further research examining the range of academic epistemic beliefs across different typologies of academic institutions from research orientated to the professional schools described by Ivory and Ferlie may show whether beliefs in knowledge show a change in influence related to academic orientations toward research or practice. Such approach could also usefully investigate any epistemic differences between academics in research focused institutions

and roles compared to academics in mainly teaching or more practice facing situations which could explain why engagement with practice varies between institutions and academics.

Finally the emergence of hybrids as a separate group along with their epistemic views is interesting and generally reflects what theory would suggest, that their epistemic views reflect a position between pure academics and practitioners. Notwithstanding that their position is closer to practitioners than academics. This appears to position hybrids as having potential to influence the TP gap within faculty by acting as a bridge between pure academics and practitioners as well as initiators of dialogue and interpreters on mode 1 and 2 language between the groups

5.3.2 Implications for practice

A major implication for practice is that epistemic beliefs need to be understood in order to close the gap between academic and practice communities. As discussed in the literature review, epistemic beliefs have a significant effect on individuals views on knowledge (Becher, O'Hear, Weick) and communication and what creates (Nonaka's knowledge spiral) and constitutes valid domain knowledge (modes 1 and 2 or tacit versus explicit knowledge). It is clear that the role of dialogue between the two groups has a significant effect on closing the gap and hence the research, teaching and practice communities would benefit from engaging in dialogue to understand their separate priories but also to benefit from each other's respective knowledge bases. In particular the significance of dialogue to practice orientation supports Ardley's argument about the central role tacit knowledge and discourse in dealing with practice issues in a contextual way based on experientially informed critical discourse. Academics wishing to develop the relevance of research to practice communities would therefore need to develop a facility with experientially informed language but face the challenge of citing this in way acceptable to academic rigour. Similarly the finding that dialogue acts a mediating force between the two groups suggests that its absence acts to create and strengthen the barriers between them. This nicely fits with Collins and Young

conclusion about the inevitability of separation between social groups (academic and practitioners) and the group normative structure arguments of Trowler or Clark and the epistemic communities of practice of Hakanson et al, each of which illustrate how separate dialogues act to reinforce individual group norms and values and exclude other groups.

Inter-epistemic dialogue between practitioners and academics would have beneficial effects on practice. Such dialogue is itself epistemic work. It turns knowledge into knowing and such 'work' generates new knowledge which is a source of innovation. This argument by Cook and & Brown has similarities to Nonaka and Takeuchi's knowledge spiral. Here explicit knowledge becomes tacit through joint actives and dialogue requiring physical proximity and through introspection this process provides the means for 'bridging epistemologies' and in so doing create a knowledge creating organization predisposed to be creative and innovative. Hybrids could also play a significant role in mediating such dialogue and interpretation of research output. Their potential as separate influencers toward the closure of the TP gap appears to be unrecognised

A number of factors will make a move toward an integrated epistemology of theory-practice difficult. Inbuilt structures and cultures of academics will inhibit such a move, especially academic practice routines and culture. Competing goals brought about by the need for rigour to publish and a fear that bringing in dialogue with practitioners could dilute the academic respectability and purity of research will all obtain. Working from the USA and in respect of knowledge transfer in health research, Rosenheck argues (2001) that organisational processes are the link between practice and research. Hughes et al (2008) makes a similar point and argues that the nature of the gap needs further understanding. Some of that understanding is uncovered here. In particular the differing epistemic views are made plain. Hughes findings, that practitioner's find much management research inapplicable and inappropriate corroborates the findings of others (Bailey, 1996). As far back as 1984 Shrivista (1984) blamed the TP gap on lack of sufficient interaction and dialogue between researchers and practitioners

Any solution must take account of the separate worlds that academics and practitioners inhabit. Clearly the issue of TP gap has a long history but the success of some, more epistemologically mature disciplines shows that a resolution is possible. And significantly factor scores suggest that epistemic views are relatively weakly influential and that gaps where significant are not too entrenched. It is obvious that dialogue actually acts to close the gap between the groups and so must be central to the solution. But then the resolution of the structural and cultural issues that separate academies from practice have to be addressed both at the individual level of the researcher and at an organisational level. At the personal or agency level, introspection as part of the dialogue process provides an opportunity for researcher to include a practice perspective to whatever level they wish. And such an approach will move academic epistemological views closer to those of practitioners and will therefore have the effect making practice views or needs inherent in researchers thinking. The goal of producing an epistemology of theory-practice holds out the potential for an increased level of epistemic work to be accomplished. As Van de Venn argues leveraging the competencies of researchers and practitioners has the potential to create be a better understanding of complex problems than either could do singly. This is an example of the capability of interaction of research with practice to create dynamic affordance and do more epistemic work

Organisational or structural issues are more difficult to deal with and are somewhat outside the direct scope of this research but will need change on a number of organisational levels. Publication in practice journals should begin to be seen as just as if not more legitimate than publishing in academic ones. In particular recognition needs to be given for work that genuinely does stronger epistemic work. Funding groups could emphasise practice based research and research outputs that require dissemination to practice. The predominance of mode 1 knowledge in academy (Starkey, 2001, Huff, 2001) needs to be rebalanced with mode 2. Dialogue and introspection again provide strong opportunities for the recognition and inclusion of mode 2 issues. Indeed the amalgamation of modes 1 and 2 knowledge is essential to the production of higher levels of epistemic work.

This research makes clear that dialogue with practice is central to addressing the TP gap. And results indicate that academics understanding of the nature of knowledge and how they come to know reflect different values and journeys from practitioners. The research identifies that academics and practitioners share a common set of epistemic dimensions but share similarities and differences in their epistemic values which predispose the two groups to some significant differences in the way they come to knowledge and what they see knowledge as. These coupled with structural and other argentic pressures underpins the TP gap. An approach to research which includes dialogic introspection will from the model has the potential to lead to the emergence of a shift in epistemic views amongst some academics. Such a shift will lead to research which is more in line with practice epistemic values and lead to the transformation of knowledge into knowing, generating epistemic work.

Final thoughts. The issues of the TP gap in marketing and business research and teaching is a longstanding and intractable one. However what we see from this research is the centrality of dialogue to its resolution. Further despite the structural barriers to its resolution, introspection does provide an agentic means of locating the solution within the Academy in the absence of change in other structural perverse incentives which are outside the responsibility of individual faculty's.

I hope that by expanding the understanding of the foundations or the TP gap that further research and the actions of academics and practitioners will act to close the gap and release the creativity and innovation potential that exists for the betterment of society

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Appendix 1

Appendix 1 Epistemic beliefs questionnaire used in the study

Thanks for visiting the survey questionnaire site. I have contacted you to ask for your participation in my research study and I would appreciate your views and experience as expressed in your completion of the questionnaire. If you feel you have been contacted in error or have any questions about the research please contact me at Staffordshire University. The aim of the survey is to understand different views on the nature of academic and practice knowledge in marketing. Your cooperation here will help us close the gap between theory and practice to the benefit of companies and students. All your responses are confidential and participants cannot be identified either by contributing to the survey or from any subsequent publication of this research. May I thank you in advance for your help in contributing to this study

Sincerely

Malcolm Ash
Senior Lecturer
Staffordshire University
BeaconsideStafford
ST180AD

Q1 Section 1 This first section asks you for some details about you and your background Personal profile What is your Gender?

- ❍ Male (1)
- ❍ Female (2)
- ❍ Prefer not to say (3)

Q2 What is your year of birth? (Please enter as a four digit number, eg 1959)

Q3 Approximately how many years have you worked as a marketing practitioner

- Less than 1 year (1)
- More than 1 year but less than 4 years (2)
- More than 4 years but less than 6 years (3)
- More than 6 years but less than 8 years (4)
- More than 8 years but less than 10 years (5)
- More than 10 years (6)

Q4 Approximately how many years have you worked as a marketing academic

- Less than 1 year (1)
- More than 1 year but less than 4 years (2)
- More than 4 years but less than 6 years (3)
- More than 6 years but less than 8 years (4)
- More than 8 years but less than 10 years (5)
- More than 10 years (6)

Q5 Which of the following best describes your level of practice marketing experience

- No practice experience - Little if any responsibility for designing and implementing marketing programs (1)
- Limited practice experience - Some experience of designing small scale marketing communication programs with a limited budget and limited program importance under supervision. Briefs agencies but not final decision maker. Gathers data for input to marketing plan (2)
- Intermediate practice experience - Experience of handling medium marketing budgets under some light supervision. Commissions and briefs agencies, signs off marketing materials. Gathers marketing data and develops own marketing plans and strategies (3)
- Significant marketing experience - Extensive experience of designing and implementing large marketing campaigns, with major budget responsibility and with a high level of importance to the organizations. Develops marketing plans and strategies and implements them under own supervision and is either at or reports to board level. Manages the work of other marketers (4)
- Extensive practice experience - Extensive senior experience of marketing strategy and planning. Responsible at senior management level at or reporting directly to board level. Responsible for managing other marketers and for achieving revenue or P&L targets (5)

Q6 What was the highest level of marketing responsibility you worked at?

- ❍ Marketing director/ Account Director (1)
- ❍ Marketing manager/ Account Manager (2)
- ❍ Product/brand manager (3)
- ❍ Marketing executive/ (4)
- ❍ Other - please fill in title below (5) _____

Q7 Section 2Your beliefs about the nature of marketing This section looks at your beliefs about the nature of marketing knowledge. Please give us your beliefs about the field of marketing, which includes professional fields of – marketing research, brand management, PR, marketing management, product management, advertising and planning Instructions: Please answer the following questions. There is no right or wrong answer for the statements below, so just answer with the ranking that just suit your views the most.

	Strongly disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
Theories are unchanging in the field of marketing (1)	❍	❍	❍	❍	❍
In the field of marketing most problems have only one right solution (2)	❍	❍	❍	❍	❍
Sometimes you just have to accept marketing solutions from experienced marketers even if you don't understand	❍	❍	❍	❍	❍

them. (3)					
All marketing theorists would probably come up with the same solutions to problems (4)	❍	❍	❍	❍	❍
The most important work of marketing is coming up with generating revenue (5)	❍	❍	❍	❍	❍
If you read something in an academic marketing textbook you can be sure it is true (6)	❍	❍	❍	❍	❍
A theory in marketing is accepted as correct if academic experts reach a consensus (7)	❍	❍	❍	❍	❍
Most of what is true in the field of marketing is already known (8)	❍	❍	❍	❍	❍
Real life	❍	❍	❍	❍	❍

marketing problems are really complex (9)					
In the field of marketing it is good to question ideas presented (10)	❍	❍	❍	❍	❍
Correct solutions to the field of marketing are more a matter of experience than fact (11)	❍	❍	❍	❍	❍
If marketing theorists try hard enough, they can find marketing solutions to any marketing problem (12)	❍	❍	❍	❍	❍
The most important part of being an experienced marketer is accumulating a lot of knowledge about different marketing problems (13)	❍	❍	❍	❍	❍
I know the	❍	❍	❍	❍	❍

marketing solutions to problems because I have figured them out for myself (14)					
I know the marketing solutions to problems because textbook theory is a good guide to solving marketing problem (15)	❍	❍	❍	❍	❍
One experienced marketers opinion in the field of marketing is as good as another's (16)	❍	❍	❍	❍	❍
Experienced marketers can ultimately get to the truth about marketing problems (17)	❍	❍	❍	❍	❍
Marketing theory is unchanging (18)	❍	❍	❍	❍	❍
Marketing theory	❍	❍	❍	❍	❍

can be applied in many situation (19)					
If my personal experience conflicts with ideas in a text book, the book is probably right (20)	❍	❍	❍	❍	❍
There is really no way to determine whether someone has the right solutions in marketing (21)	❍	❍	❍	❍	❍
Expertise in the field of marketing consists in seeing the interrelationships among ideas (22)	❍	❍	❍	❍	❍
Solutions to problems in marketing change as experts gather more information (23)	❍	❍	❍	❍	❍
All experts in marketing	❍	❍	❍	❍	❍

understand the field in the same way (24)					
I am more likely to accept the ideas of someone with first hand experience than the ideas of theorists in the field of marketing (25)	❍	❍	❍	❍	❍
I am most confident that I know something when I know what academic experts think (26)	❍	❍	❍	❍	❍
First-hand experience is the best way of knowing something in marketing (27)	❍	❍	❍	❍	❍

Q8 How likely are you to seek advice on a practice problem from an academic practitioner?

	Very Likely (1)	Likely (2)	Neutral (3)	Unlikely (4)	Very Unlikely (5)
How likely are you to seek marketing advice on an applied practice problem from an academic (1)	❍	❍	❍	❍	❍
How likely are you to seek advice from a text book on an applied marketing problem (2)	❍	❍	❍	❍	❍
How likely are you to seek advice from a practice marketer to an applied marketing problem (3)	❍	❍	❍	❍	❍
How likely are you consult an applied practice book on marketing	❍	❍	❍	❍	❍

to solve a real-world problem (4)					
If you disagree with a colleague about a solution to an applied marketing problem how likely are you to consult an academic to resolve the disagreement? (5)	❍	❍	❍	❍	❍
How likely are you to pass on advice on marketing techniques that have solved a real world problem to a colleague (6)	❍	❍	❍	❍	❍
How likely are you to advise an experienced practice marketer on	❍	❍	❍	❍	❍

how to enhance their marketing programmes (7)					

Appendix 2 Respondent recruitment email

Email copy

Subject line – Staffordshire University Research Request

Many thanks for opening the message. I am a lecturer at Staffordshire University and we are contacting you to ask for your collaboration in an online research project, looking at attitudes towards practical and theoretical knowledge held by marketing practitioners and academics

The survey we are asking you to complete is online at - https://qtrial.qualtrics.com/SE/?SID=SV_6EhvSnsROrEGc7y it should not take you more than about 10 minutes to complete. There are some demographic questions that ask you about your level of marketing experience, together with a number that relate to your views on knowledge. There are no right or wrong answers so please just answer with whatever answer you believe best suits your views. Your participation will help me understand more about how practitioner epistemological views may differ. In turn your answers will help us close the gap between marketing theory and practice.

Your responses will be entirely confidential and no views or findings will in anyway be attributable to you. Only I will see your individual response. The questionnaire is a variant of a standard epistemic views instrument and you will see if you examine it that it poses no known risk in connection associated your participation.

If you do complete the survey and you would like to see the finished study, just e mail me and I will send you a free copy as soon as it is published. I do warn you it is a bit academic!

By clicking on the link below you will go to the questionnaire to the Qualtrics site, where I hope the questionnaire completion will be self explanatory. The survey URL is https://qtrial.qualtrics.com/SE/?SID=SV_6EhvSnsROrEGc7y

Appendices

If you have any questions or concerns about your participation then please contact me at –

Malcolm Ash
Senior Lecturer, Business School
Staffordshire University
Beaconside, Stafford, St180AD
01785 353214 or m.ash@staffs.ac.uk

https://qtrial.qualtrics.com/SE/?SID=SV_6EhvSnsROrEGc7y

Appendix 3 Descriptive Statistics

Total Responses

Statistics

Academic or practitioner

N	Valid	343
	Missing	5

Breakdown between academics and Practitioners

Question 3 Approximately how many years have you worked as a marketing practitioner?

Approximately how many years have you worked as a marketing practitioner

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 year	17	4.9	5.8	5.8
	More than 1 year but less than 4 years	19	5.5	6.5	12.4
	More than 4 years but less than 6 years	27	7.8	9.3	21.6
	More than 6 years but less than 8 years	21	6.0	7.2	28.9
	More than 8 years but less than 10 years	27	7.8	9.3	38.1
	More than 10 years	175	50.3	60.1	98.3
	7	5	1.4	1.7	100.0
	Total	291	83.6	100.0	
Missing	System	57	16.4		
Total		348	100.0		

Q4 Approximately how many years have you worked as a marketing practitioner?

Approximately how many years have you worked as a marketing academic

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 year	71	20.4	36.6	36.6
	More than 1 year but less than 4 years	34	9.8	17.5	54.1
	More than 4 years but less than 6 years	20	5.7	10.3	64.4
	More than 6 years but less than 8 years	8	2.3	4.1	68.6
	More than 8 years but less than 10 years	6	1.7	3.1	71.6
	More than 10 years	48	13.8	24.7	96.4
	7	7	2.0	3.6	100.0
	Total	194	55.7	100.0	
Missing	System	154	44.3		
Total		348	100.0		

Q5 Which of the following best describes your level of practice marketing experience

Which of the following best describes your level of practice marketing experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No practice experience - Little if any responsibility for designing and implementing marketing programmes	15	4.3	5.2	5.2
	Limited practice experience - Some experience of designing small scale marketing communication programmes with a limited budget and limited program importance under supervision. Briefs agencies but not final decision maker. Gathers data for input to mar	11	3.2	3.8	9.0

	Intermediate practice experience - Experience of handling medium marketing budgets under some light supervision. Commissions and briefs agencies, signs off marketing materials. Gathers marketing data and develops own marketing plans and strategies	54	15.5	18.8	27.8
	Significant marketing experience - Extensive experience of designing and implementing large marketing campaigns, with major budget responsibility and with a high level of importance to the organization's. Develops marketing plans and strategies and imple	90	25.9	31.3	59.0
	Extensive practice experience - Extensive senior experience of marketing strategy and planning. Responsible at senior management level at or reporting directly to board level. Responsible for managing other marketers and for achieving revenue or P&L tar	118	33.9	41.0	100.0
	Total	288	82.8	100.0	
Missing	System	60	17.2		
Total		348	100.0		

Q6 What was the highest level of marketing responsibility you worked at?

What was the highest level of marketing responsibility you worked at?

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Marketing director/ Account Director	116	33.3	39.3	39.3
	Marketing manager/ Account Manager	127	36.5	43.1	82.4
	Product/brand manager	3	.9	1.0	83.4
	Marketing executive/	9	2.6	3.1	86.4
	Other - please fill in title below	36	10.3	12.2	98.6
	6	4	1.1	1.4	100.0
	Total	295	84.8	100.0	
Missing	System	53	15.2		
Total		348	100.0		

Appendix 4 Analysis of retained factors

Factor 1	Hofer's factors	Other factor definitions
26 I am most confident that I know something when I know what academic experts think	Source authority	Empiricism Dualism
15 I know the marketing solutions to problems because textbook theory is a good guide to solving marketing problem		Dualism Log positivism Empiricism
6 If you read something in an academic marketing textbook you can be sure it is true	Certainty/Simple knowledge (and Source authority)	Source authority Logical positivism
7 A theory in marketing is accepted as correct if academic experts reach a consensus	Certainty/Simple knowledge	Source authority Logical positivism
24 All experts in marketing understand the field in the same way	Certainty/simple knowledge	Dualism Naïve realism Logical positivism Thinking
20 If my personal experience conflicts with ideas in a text book, the book is probably right	Source authority Personal just	Source authority Dualism
2 In the field of marketing most problems have only one right solution	Certainty Minor on source authority	Dualism Naïve realism Logical positivism Thinking
12 If marketing theorists try hard enough, they can find	Certainty/Simple knowledge	Dualism Naïve realism

marketing solutions to any marketing problem		Logical positivism Thinking
4 All marketing theorists would probably come up with the same solutions to problems	Certainty Also minor loads on per just, source authority	Dualism Naïve realism Logical positivism Thinking
Factor 2		
27 First-hand experience is the best way of knowing something in marketing	Personal justification	Attainability truth Metaphorism Social Constructivism Feeling Sceptical subjectivism
25 I am more likely to accept the ideas of someone with first-hand experience than the ideas of theorists in the field of marketing	Contextual	Attainability truth Metaphorism Social Constructivism Feeling Sceptical subjectivism
17 Experienced marketers can ultimately get to the truth about marketing problems	Attainability of truth	Relativism Metaphorism
11 Correct solutions to the field of marketing are more a matter of experience than fact	Justification fro knowing	Relativism Metaphorism Social Constructivism Feeling Sceptical subjectivism
14 I know the marketing solutions to problems because I have figured them out for myself		Relativism Metaphorism Social Constructivism Feeling Sceptical subjectivism

5 The most important work of marketing is coming up with generating revenue		Relativism Metaphorism Social Constructivism Feeling Sceptical subjectivism
13 The most important part of being an experienced marketer is accumulating a lot of knowledge about different marketing problems		Relativism Metaphorism Social Constructivism Feeling Sceptical subjectivism
Factor 3		
18 Marketing theory is unchanging	Certainty/Simple knowledge	Dualism Naïve realism Logical positivism Thinking
1 Truth is unchanging in this subject.	Certainty/Simple knowledge	Dualism Naïve realism Logical positivism Thinking
23 Solutions to problems in marketing change as experts gather more information	Certainty/Simple knowledge	Dualism Naïve realism Logical positivism Thinking
Factor 4		
4 All marketing theorists would probably come up with the same solutions to problems	Certainty/Simple knowledge	Dualism Naïve realism Thinking Log positivism Empiricism
12 If marketing theorists try	Attainment of	Naïve realism?

hard enough, they can find marketing solutions to any marketing problem	truth	Empiricism
3 Sometimes you just have to accept marketing solutions from experienced marketers even if you don't understand them	Source authority	Dualism Naïve realism Empiricism
19 Marketing theory can be applied in many situation		Dualism Naïve realism Empiricism
8 Most of what is true in the field of marketing is already known	Certainty/Simple knowledge	Dualism Naïve realism Empiricism
21 If marketing theorists try hard enough, they can find marketing solutions to any marketing problem	justification	Dualism Naïve realism Empiricism
Factor 5		Interpretation
1 How likely are you to seek marketing advice on an applied practice problem from an *academic* 2 How likely are you to seek advice from a *text book* on an applied marketing problem 5 If you disagree with a colleague about a solution to an applied marketing problem how		Source authority

likely are you to consult an *academic* to resolve the disagreement? 4 How likely are you consult an applied practice book on marketing to solve a real-world problem		
Factor 6		
7 How likely are you to *advise* an experienced practice marketer on how to enhance their marketing programmes 6 How likely are you to *pass on* advice on marketing techniques that have solved a real world problem to a colleague 3 How likely are you to *seek advice* from a practice marketer to an applied marketing problem		Engagement in dialogue

Appendix 5 Correlation matrix

	Q7_1	Q7_2	Q7_3	Q7_4	Q7_5	Q7_6	Q7_7	Q7_8	Q7_9	Q7_10	Q7_11	Q7_12	Q7_13	Q7_14	Q7_15	Q7_16	Q7_17	Q7_18	Q7_19	Q7_20	Q7_21	Q7_22	Q7_23	Q7_24	Q7_25	Q7_26	Q7_27
Q7																											
1																											
	1.00	.360	-.053	.235	.016	.299	.158	.254	-.141	-.186	-.072	.170	-.066	-.060	.031	.097	-.023	.699	.108	.148	.102	-.083	-.245	.313	-.047	.116	-.037
2	.360	1.000	-.115	.378	-.027	.486	.318	.178	-.235	-.243	-.259	.296	-.269	-.036	.322	.066	-.206	.412	.134	.267	-.032	-.278	-.145	.450	-.237	.345	-.283
3	-.053	-.115	1.000	.189	.204	-.177	.018	.109	.133	.093	.238	-.258	.319	.241	-.132	.070	.241	.022	-.309	-.184	.125	.229	.113	-.017	.198	-.175	.302
4	.235	.378	.189	1.000	.049	.362	.296	.173	-.190	-.214	-.045	.048	-.043	.109	.153	.154	-.020	.374	.005	.188	.086	-.189	-.035	.443	-.105	.231	-.088
5	.016	-.027	.204	.049	1.000	-.066	-.098	-.074	.154	.066	.288	-.128	.214	.237	-.062	.035	.196	.089	-.070	-.187	.018	.116	-.045	.006	.295	-.167	.375
6	.299	.486	-.177	.362	-.066	1.000	.469	.284	-.310	-.202	-.299	.377	-.232	-.192	.469	.191	-.185	.364	.230	.471	.013	-.387	-.164	.464	-.332	.465	-.401
7	.158	.318	.018	.296	-.098	.469	1.000	.316	-.095	-.071	-.201	.209	-.077	-.075	.309	.082	-.076	.244	.093	.297	-.040	-.156	-.002	.342	-.198	.445	-.275
8	.254	.178	.109	.173	-.074	.284	.316	1.000	-.128	-.013	-.075	.120	.149	-.019	.126	.161	.014	.305	.046	.138	.157	.032	-.165	.141	.031	.158	.002
9	-.141	-.235	.133	-.190	.154	-.310	-.095	-.128	1.000	.202	.290	-.273	.192	.060	-.105	-.001	.108	-.190	-.091	-.117	.028	.289	.158	-.229	.163	-.079	.238
10	-.186	-.243	.093	-.214	.066	-.202	-.071	-.013	.202	1.000	.092	-.078	.252	.077	-.053	-.112	.159	-.192	-.079	-.165	-.056	.230	.072	-.242	.133	-.173	.122
11	-.072	-.259	.238	-.045	.288	-.299	-.201	-.075	.290	.092	1.000	-.185	.316	.328	-.192	.084	.409	-.050	-.143	-.295	-.002	.269	.216	-.206	.467	-.265	.510
12	.170	.296	-.258	.048	-.128	.377	.209	.120	-.273	-.078	-.185	1.000	-.174	-.142	.306	.167	.059	.121	.309	.235	-.019	-.183	-.123	.285	-.147	.228	-.242
13	-.066	-.269	.319	-.043	.214	-.232	-.077	.149	.192	.252	.316	-.174	1.000	.359	-.048	-.017	.408	-.069	-.233	-.247	.151	.403	.155	-.139	.288	-.162	.404
14	-.060	-.036	.241	.109	.237	-.192	-.075	-.019	.060	.077	.328	-.142	.359	1.000	-.021	.072	.375	.009	-.189	-.201	.114	.241	.171	-.082	.401	-.199	.461
15	.031	.322	-.132	.153	-.062	.469	.309	.126	-.105	-.053	-.192	.306	-.048	-.021	1.000	.075	-.097	.101	.247	.282	-.037	-.215	.030	.290	-.265	.478	-.278
16	.097	.066	.070	.154	.035	.191	.082	.161	-.001	-.112	.084	.167	-.017	.072	.075	1.000	.103	.179	.056	.140	.143	-.117	-.068	.197	.012	.091	.010
17	-.023	-.206	.241	-.020	.196	-.185	-.076	.014	.108	.159	.409	.059	.408	.375	-.097	.103	1.000	.035	-.127	-.230	-.047	.311	.150	-.074	.424	-.245	.435
18	.699	.412	.022	.374	.089	.364	.244	.305	-.190	-.192	-.050	.121	-.069	.009	.101	.179	.035	1.000	.027	.169	.084	-.136	-.308	.363	-.033	.105	-.031
19	.108	.134	-.309	.005	-.070	.230	.093	.046	-.091	-.079	-.143	.309	-.233	-.189	.247	.056	-.127	.027	1.000	.223	-.107	-.238	-.082	.116	-.139	.251	-.158
20	.148	.267	-.184	.188	-.187	.471	.297	.138	-.117	-.165	-.295	.235	-.247	-.201	.282	.140	-.230	.169	.223	1.000	-.121	-.244	-.058	.377	-.292	.419	-.334

21	.102	-.032	.125	.086	.018	.013	-.040	.157	.028	-.056	-.002	-.019	.151	.114	-.037	.143	-.047	.084	-.107	-.121	1.000	.039	.037	.069	-.032	-.018	.105
22	-.083	-.278	.229	-.189	.116	-.387	-.156	.032	.289	.230	.269	-.183	.403	.241	-.215	-.117	.311	-.136	-.238	-.244	.039	1.000	.157	-.205	.258	-.193	.381
23	-.245	-.145	.113	-.035	-.045	-.164	-.002	-.165	.158	.072	.216	-.123	.155	.171	.030	-.068	.150	-.308	-.082	-.058	.037	.157	1.000	-.220	.118	-.009	.137
24	.313	.450	-.017	.443	.006	.464	.342	.141	-.229	-.242	-.206	.285	-.139	-.082	.290	.197	-.074	.363	.116	.377	.069	-.205	-.220	1.000	-.319	.396	-.276
25	-.047	-.237	.198	-.105	.295	-.332	-.198	.031	.163	.133	.467	-.147	.288	.401	-.265	.012	.424	-.033	-.139	-.292	-.032	.258	.118	-.319	1.000	-.382	.693
26	.116	.345	-.175	.231	-.167	.465	.445	.158	-.079	-.173	-.265	.228	-.162	-.199	.478	.091	-.245	.105	.251	.419	-.018	-.193	-.009	.396	-.382	1.000	-.368
27	-.037	-.283	.302	-.088	.375	-.401	-.275	.002	.238	.122	.510	-.242	.404	.461	-.278	.010	.435	-.031	-.158	-.334	.105	.381	.137	-.276	.693	-.368	1.000