Introduction

The aim of this journal is to explore a relatively little known mixed methods research design that has an excellent historical pedigree and encourage its’ application within marketing research. The objective is the use of Q methodology (hereafter Q) amongst market researchers interested in accessing complexity of the individual lived experience and subjective self-reference position offering an excellent alternative research paradigm. Stenner and Stainton Rogers, 2004 argue that Q is positioned as a pragmatist methodology and combines eloquently mixed method. This may encourage both soft quantitative and hard qualitative researchers to engage with the methodology, as an opportunity to combine qualitative methods with a combined strand of quantitative logic and the associated hypothetico-deductive methods.

Q owes its heritage to the British physicist and psychologist William Stephenson (1902-1989). Stephenson’s interest was in subjectivity: revealing mathematically the way study participants classify themselves, not according to the definitions laid down by the researcher. Q has an established history in fields such as psychology, philosophy, political and social science, education, communication and most recently behavioural and health sciences (Brown, 1997; Eden et al., 2005),though there are few studies in marketing and Management.

An overview of the Q research process will be provided as well as addressing some ontological and epistemological issues that have been raised. Q provides a means to study the subjectivity involved in any situation, evolving from FA theory, it is a means of extracting subjective opinion. It captures subjectivity in operation through a person’s self-reference, which produces a data set and represents an attempt “to analyse subjectivity, in all its forms, in a structured and interpretable form” (Barry and Proops, 1999).

Q uses methods of impression (as opposed to objective methods of expression) to discover the subjective meaning or significance items have for respondents. Using the internal frame of reference from each respondent, about the relative significance and meaning of individual test stimuli. Q-studies do not yield statistically generalisable results. Instead, the results produce an in-depth portrayal of the patterns of subjective perspectives that prevail in a given situation (Steelman and Maguire, 1999). The subjective experience of the people taking part is where the power and integrity in Q prevails. As Barker (2008, p. 919) contends, it is this ability to access ‘significance to me’ or individual’s subjectivity that mirrors Q’s departure from positivist inquiry. By inference if marketers are exploring common held beliefs and options or perspectives, Q is ideally positioned to offer a statistical basis with qualified data.

In essence the method employs a by-person factor analysis in order to identify groups of participants who make sense of (and who hence Q ‘sort’) a pool of items in comparable ways. Nothing more complicated is at issue. Although Q deploys FA, the mathematics of which is complex, it is a remarkably “user-friendly” method and requires limited knowledge of mathematics to interpret the dataset obtained.

As its name implies, Q is not simply a research ‘method’. Its epistemological foundations centre of gravity is strongly qualitative even though as a method it relies upon a statistical techniques to identify relationships within the data (Brown 1996; Dryzek, 1994).

Theoretical principles of Q

The methodological approaches in business research are customarily divided into broad categories of qualitative and quantitative strategies (Bryman, 2004). Since the 1990’s, the application of qualitative methods has gained momentum; as the need to understand complex adaptive systems, in recognition of the individuals contribution and impact and behaviours of groups and teams evolve and organisational culture and behaviour come to the forefront of progress and evolution.

When qualitative and quantitative approaches are compared, there is a propensity to reduce and simplify the approaches to one being inductive and dealing with words, and the other being hypothetic–deductive and dealing with numbers (Brannen, 2005) as seen in figure 1. The truth is more nuanced than this and it is fair to say that the two research traditions have different goals. Often marketing research, when looking for reasons that drive behaviour deals with issues that do not lend themselves easily to quantification, which can be a result of the multi-layered complexity that arise in the field, this nub of complex adaptive behaviour is often difficult to access, though is an excellent position for Q to gain entry and make traction.

**Integration of quantitative and qualitative approaches in mixed methods research (adapted from Creswell *et al.,* 2007)**



**Figure 1**

Qualitative research methods have been criticized for being influenced by researchers’ prior understandings and views and so too impressionistic and subjective (Bryman, 2004; Polit & Beck, 2004). Q provides a technique to study systematically, qualitative aspects of human subjectivity so reducing the interference of the researcher’s preconceptions. Subjectivity of the participants lived experience’ is of specific interest in Q, to gain access to otherwise inaccessible information from a statistical stance. In Q, the participant’s subjective viewpoint is known as his or her self-reference on a topic, a key aim is to ensure that this self- reference is preserved rather than compromised by the researchers’ reference concerning the research issue (McKeown & Thomas, 1988).

Because of its reliance on FA, Q is associated with quantitative methods which render it a ‘highly unusual qualitative research method’ (Watts and Stenner, 2005: 69). Stephenson, (1953) argues the correlation and factor analysis of scale responses leads not to a taxonomy of behaviour as commonly thought, but to a taxonomy of tests. Stephenson (1953: 561) was interested in the lived experience, so Q engages the attention of the qualitative researcher interested in more than just life measured by the pound.

The underlying analytic principles in Q differ markedly from traditional correlational matrix analysis, ‘whereby tests are applied to a sample of people’, and instead applies ‘persons (to) a ‘‘sample’’ of statements. In Q it will be the ‘‘persons’’, or, more accurately, their action upon a sampling of elements, which will be correlated and subsequently factored’ (Stainton Rogers, 1995: 179). Studies include complex issues surrounding participant subjectivity and quantifiable behaviour. The roles of social media and users perceptions identifying factors that drive consumer’s perceptions and behaviour. Q was deployed to explore a diverse group of female on-line gamers; its strength was used to tailor product development to demographics to enhance future game design and development (Preece et al, 2013).

To explore the notion of ‘participant subjectivity’, Stephenson developed the research technique known as Q-sort. As a research procedure, Q-sort requires individuals to rank-order important aspects of a phenomenon, these can be bipolar opposites which explore individual subjectivity, such as ‘most like me’/‘least like me’. As a result Q can reveal similarities and differences in perception and cluster similar perspectives. Alternatively the ranking can be a spectrum sort prioritising statements ‘sort in overall order of importance to you’, this is significant if you are attempting to gain insights from a behaviour and for example decision process when considering consumer behaviour. Q was used to research third generation on-line gamers, Q’s strength was used recognise and differentiate the preference of consumer groups and identify hotspots or clusters of factors that have more meaning and significance to some of these more hard to reach consumer groups (Preece et al, 2013).

The Q-sort itself comes to be misrepresented as a passive ‘response dimension’ (McGarty and Haslam, 2003: 364) upon which ‘statements’ are simply ranked into piles. In practice the ranking is a dynamic medium through which subjectivity can be actively expressed (Stephenson, 1953), participants will often reflect on the difficulty this phase poses and the rich narrative that can be gleaned from this process gains further insight into the dynamic nature of the subject under investigation. Participants may reflect on the decision making process of the selection and the connectivity between other q-set statements. The practitioner can conclude the sort process with a short semi-structured interview to elicit how this dynamic process was experienced and what insights and reflections have been elicited. In addition their individual narrative of this dynamic process can be pivotal in research findings.

Q’s quantitative features render it a highly unusual integrated mixed methods research method (Curt, 1994; Watts and Stenner, 2003a). Stenner and Stainton Rogers, (2004) argue the method is qualiquantological, whilst Ramlo et al (2015) argue its evolution into a cohesive and usable integrated mixed method; this has been analysed using at adaptation of Creswell et al 2007 mixed methods analysis (see figure 1).

This fact alone may encourage some soft quantitative and qualitative researchers to engage with Q methodology, as many will have the opportunity to combine qualitative methods with a combined strand of quantitative logic and the associated hypothetico-deductive methods. It is also easy to avoid Q methodology in the belief that it offers nothing that one of a number of forms of textual analysis cannot do better and in a more straightforwardly ‘qualitative’ fashion (Willig, 2001). Discourse analysis (Potter and Wetherell, 1987), narrative analysis (Crossley, 2000) and interpretative phenomenological analysis (Smith, 1996), for example, may seem to offer more palatable alternatives in this regard. Tashakkori and Teddie (2009) developed an argument for a third method of quasi-qualiquantological methodologies that bridges the divide of both extreme forms of research, supporting the notion of a realist perspective that is valid and rigorous whilst pragmatic in its application as seen in figure 2.

**Multidimensional continuum between the two extreme post-positivist and constructivist paradigms (extracted from Tashakkori and Teddie, 2009)**



**Figure 2.**

It would nonetheless be unfortunate were any qualitative researcher to reject Q methodology for either of these reasons. Harre (2004) argues that to avoid all forms of mathematical and quantitative representation (or to develop a knee- jerk aversion to science) simply because they have often been poorly employed. Qualitative methodologists have rightly challenged the currently extant ‘scientific’ or hypothetico-deductive approach in business management, but (and despite its quantitative content) it is important to recognize that Stephenson’s Q was actually performing a similar function long before any significant qualitative tradition had been established in many disciplines (Stephenson, 1935).

In fact, Q was designed for the very purpose of challenging the dated, Newtonian logic of ‘testing’ that continues to predominate in psychology. It also offered an early critique of the cognitive assertion that people can properly be divided into a series of psychological ‘parts’. This same critique has, of course, subsequently become a typical feature of ‘constructionist’ approaches (Harre 1999). Q is a typical qualitative approach with the added advantage of holding a critical stance through the embrace (rather than the rejection) of many natural scientific assumptions.

It ordinarily adopts a multiple-participant format (data set size is usual of 40-60 participants) and is deployed in order to explore (and to make sense of) highly complex and socially contested concepts. Alternatively Q explores subject matters from the point of view of the group of participants involved (Stainton Rogers, 1995; Watts and Stenner, 2003a). It does not do this in a thematic fashion, nor does it focus on the viewpoints of specific individuals. Unsurprisingly, this typical form of Q disappoints when themes and/or individuals are the primary research targets (Ramela and Newman, 2012).

Pragmatism is viewed as the philosophical partner for the mixed methods approach. Individual researchers have a freedom of choice. In this way, researchers are free to choose the methods, techniques and procedures of research that best meet their needs and purposes (Creswell, 2007; Morgan, 2007). Pragmatism is based on a set of assumptions about knowledge and enquiry need, in order to access knowledge through a combination of philosophies, thus will combine qualitative and quantitative research designs (Creswell, 2007; Johnson and Onwuegbuzie, 2004; Maxcy, 2003; Rallis and Rossman, 2003). The pragmatist researcher looks to the ‘what’ and ‘how’, based on the intended impact and purposes (Creswell, 2007; Morgan 2007).

Pragmatism is sometimes treated as a new orthodoxy built on the belief that it is allowable and desirable to mix methods from different paradigms of research (Creswell et al., 2007). It can be argued that good social research will almost inevitably require the use of both quantitative and qualitative research in order to provide an adequate answer (Greene et al., 2005, 2001; Rocco et al., 2003). Mixed methods offer a third paradigm for social research through the combination of quantitative and qualitative methodologies that are used to procreate knowledge and are in harmony with the pragmatism philosophy for practice-driven research (Denscombe, 2005; Creswell, 2007; Cameron, 2008; Saunders and Thornhill, 2009).

Johnson and Onwuegbuzie (2004, p. 14) argue that mixed methods research is a ‘research paradigm whose time has come’. Cameron and Miller (2007) use the metaphor of the phoenix to illustrate the emergence of mixed methods as the third methodological movement, arising from the ashes of the paradigm wars. Cameron (2008) takes this analogy further by asking whether the phoenix has landed as seen in figure 3.

**Adaption of Q Paradigm continuum (Tashakkori and Teddile, 2009; Ramela and Newman, 2012)**



**Figure 3.**

Q’s position on most of the continuums is at the centre, clearly positioning it as a mixed method. The exception is Q’s position towards the qualitative side of the continuum related to the research purpose. The purpose of Q studies is to measure subjectivity although it does so objectively, because subjectivity is made operant through factor structure (Stephenson, 1953).

To properly appreciate Q methodology, we need instead to recognize that it is essentially a gestalt procedure (Good, 2000). This gestalt emphasis means it can never ‘break-up’ its subject matter into a series of constituent themes (which immediately distinguishes Q from various forms of discursive or interpretative phenomenological analyses). What it can do, however, is show us the primary ways in which these themes are being interconnected or otherwise related by a group of participants. It can show us the particular combinations or configurations of themes that are preferred by the participant group.

*A critical summary of Q is Firstly*, it does not deal with participants’ own discourse, but invites participants to engage in the unusual task of relating (in a complex and in-depth way) with a set of prepared items. This ‘unusual task’ evidently violates the principle of ‘naturalism’. In contrast the idea of ‘naturally occurring discourse’ is highly problematic (Potter, 1997) though there is not a substantiated reason to assume that unfamiliar activities cannot yield useful insights. Qualitative researchers should never underestimate the impact of research context on findings. Neither should they ‘leap’ from findings to unwarranted knowledge claims.

*Secondly*, Q is not well suited to dealing with the unfolding temporality of narratives. Narrative analysis actively pursues this temporality and then examines the resultant stories in terms of their temporal structure (e.g., beginning, middle, end) and function. Q pursues a ‘snap shot’ or temporally frozen image of a connected series of subject positions (or ‘view-points’). It then examines these (methodologically frozen) positions in terms of their overall structure, function and implications.

*Thirdly*, Q does not focuses on the narrative of specific individuals, Q typically focuses on the range of viewpoints that are favoured (or which are otherwise ‘shared’) by specific groups of participants. In other words, the typical Q methodological study very deliberately pursues constructions and representations of a social kind (Moscovici, 1981).

To conclude, these differences allow Q methodology to offer a unique form of qualitative analysis, indeed, in accenting the group and their shared viewpoints, this form of analysis provides an ideal (and noticeably more macroscopic) complement to qualitative approaches which highlight the ‘theme’ and/or ‘the individual’. Therefore persons become the variables of interest in an inverted (or ‘Q’) study. Such studies actively explore ‘correlations between persons or whole aspects of persons’ (Stephenson, 1936b: 345). As a consequence of these changes, it is also persons (not tests, traits or other types of variables) that load onto the emergent factors of an inverted factor analytic study.

This qualiquantological methodology has encouraging credentials, offers a solution to accessing complexity and manages to navigate through dynamic environments. It offers a melding of positions to soft quantitative researchers and gives more structure to qualitative researchers to engage with research. The researcher can straddle both terrains and bring them together in a unique approach that has been proven in a multi-disciplinary environments introducing new insights to market research, supporting consumer behaviour and keeping the individual at the centre of the research foci.

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