Exploring the ZMET Methodology in Services Marketing

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Purpose – The paper explores how the Zaltman Metaphor Elicitation Technique (ZMET) can be adopted in services marketing to provide deeper customer experience insights.

Design/methodology/approach – The paper explores how ZMET interviews, which use images selected by the participant to facilitate discussion, can be used by researchers. The paper draws upon a study of 24 student experiences at a UK University.

Findings – Adopting this qualitative method for services marketing can counter depth deficit when compared to other qualitative approaches, because it is participant led. However, the method requires competent interview skills and time for the interview and analysis. We find that ZMET has not been widely adopted in academia due to its commercial licensed use. The paper illustrates how to use the ZMET process step-by-step.

Research limitations/implications – Findings are limited to student experiences. Further research is necessary to understand how researchers could use ZMET in other areas of services marketing.

Practical implications – The paper provides guidance to researchers on how to use the ZMET as a methodological tool. ZMET facilitates a deeper understanding of service experiences through using participant chosen images, thus enabling researchers to uncover subconscious hidden perceptions that other methods may not find.

Originality/value – ZMET has been used commercially to gain market insights but has had limited application in service research. Existing studies fail to provide details of how ZMET can be used to access the consumer subconscious. This paper makes a methodological contribution by providing step-by-step guidance on how to apply ZMET to services marketing.

Key words - ZMET, Service experience, Images, Interviews, Services Marketing

Introduction

Ostrom *et al* (2015) propose that researchers need to have a better understanding of the service experience, including issues associated with value creation, in order to transform and optimise the way services are delivered. Furthermore, Helkkula (2011) suggests that we need to critically explore the service concept from the perspective of *who* experiences it. One way of addressing these issues is to adopt an appropriate methodology, which explores in detail customer perceptions and experiences in a service context. This paper argues that by using an alternative qualitative image-based method, namely the Zaltman Metaphor Elicitation Technique (ZMET), researchers can understand service experiences better. However, ZMET has had only limited use in service research. This paper therefore explains the benefits and practicalities of using ZMET by applying this methodological approach to a student experience context.

Understanding the student experience has become increasingly important for universities as recent studies suggest that students are becoming more demanding and have higher expectations of service delivery (Nixon *et al*, 2018). Traditionally, understanding student perceptions and experiences of educational service delivery has been measured in the UK by using indicators of satisfaction such as those found in the large-scale National Student Survey (NSS) (Flint *et al*., 2009; Brown, 2011; Harbisher *et al*., 2014.

However, consumer satisfaction scores are largely based on survey evidence and tend to focus management attention on small points of difference between consumers. However, these differences in reality, may be relatively insignificant, and consequently they fail to recognise and prioritise areas of service delivery and lack the 'depth' to understand difficult and complex issues which are often revealed through 'emotions' or 'metaphorical expression' (Zaltman and Zaltman, 2008). Understanding the role of emotions has been found to be a better predictor of consumer loyalty (Mano and Oliver, 1993; Yu and Dean, 2001; Wong, 2004,) and of future behaviour intentions in service research (Martin *et al*., 2006; Palmer and Koenig-Lewis, 2009; White, 2010; Longbottom and Modjtahedi, 2013).

Qualitative methods, therefore, can help address the shortcomings associated with large-scale quantitative surveys in service research, by capturing respondent's interpretations whilst taking account of the context in which they are located (Bryman, 1989). However, we argue that traditional qualitative approaches, such as interviews, do not go far enough in probing the subconscious opinions consumers may hold about a service; instead these methods present a 'depth deficit' (Mulvey and Kavalam, 2010).

To counter the 'depth deficit' of traditional qualitative methods, this paper draws upon marketing practice by applying and developing a commercial market research method and applying this to an academic study. By using the Zaltman Metaphor Elicitation Technique (ZMET) developed by Zaltman and Zaltman (2008), we offer an alternative, novel approach to gaining in-depth consumer insights and perceptions in service research. Originally developed and licensed to explore consumer responses to commercial advertising campaigns, ZMET uses images chosen by the participant in an interview setting to prompt them to explore complex issues, elicited through their use of metaphors. ZMET is novel in that it allows the participant to be in control of choosing images, which reflect their own thoughts and feelings; these images are probed using a collection of interview techniques. ZMET offers clear advantages to understanding consumer opinion, for example, Zaltman (2003) researched customers who used Proctor and Gamble's product 'Febreeze™', creating the tagline 'breathe happy', by unearthing deeper customer perceptions relating to notions of happiness and freshness. However, we find that the application of this method to academic studies is limited, in part because of the confusion surrounding the licensing of the method. As Khoo-Lattimore and Prideaux (2013) have argued, the main reasons why academics have not adopted ZMET widely is because the guidance on how to use the method is

not readily available and the patent (Registered in the USA only, the original expired in 2015) puts off researchers. However, Zaltman previously had given permission in 1997 for researchers to use it for scholarly purposes. Finally, there is a misconception that psychology training is required in order to use the approach. So, whilst ZMET can be adopted freely in academic research and has a wealth of apparent benefits as a qualitative method, it is not fully clear how the approach can easily be used and applied to collect data in academic studies.

Our study therefore offers a methodological contribution by exploring how ZMET could be adopted by services research academics. In order to help illustrate this we use student perceptions of the educational service provided by a UK University as our setting. We do not discuss the service-based findings of the study, but instead focus on the methodological contribution the study makes. Specifically, the aims of the paper are:

- To explore how the commercial ZMET method can be used by academic researchers to ensure rigour in qualitative service-based studies

- To demonstrate how ZMET can be more advantageous than traditional qualitative methods when trying to obtain 'depth' consumer insights in services context

- To provide step-by-step guidance to those wishing to use ZMET in a services marketing study

The paper begins by exploring the origins of the use of images in qualitative research; it then discusses the development of ZMET used predominantly for commercial advertising insights. It moves onto a critical explanation of the ZMET method, which outlines the overall process so that other researchers can adopt the approach. The paper concludes with an appraisal of the method.

The use of photographic elicitation by academic researchers

The use of images and photos to aid discussion in interviewing can be regarded as a qualitative projective technique (Foster, 2011). Projective techniques have their roots in psychology and require participants to 'project' their thoughts onto something or someone (Catterall and Ibbotson, 2000). Examples include sentence completion, word association and commenting on ethical dilemmas/scenarios. Projective techniques encourage participants to have a more open discussion as 'distance' is placed between the respondent and the subject matter. This helps to address some of the issues associated with direct questioning in traditional interview techniques, such as a participant's inability to articulate complex, detailed perceptions or experiences (Day, 1989).

Photographs have historically been used to elicit participants' thoughts since the 1950s (Harper, 2002). It was regarded as a pioneering method and originally was used in the academic fields of anthropology and sociology, and then later emerged in psychology during the 1990s. However, the use of photo elicitation has been relatively limited when compared to other qualitative methods, having been used by Collier in the 1950s, Wagner in the 1970s, Harper and Barndt in the 1980s, Sustik, Buchannan and Zaltman in the late 1990s and Rose in 2000s (Rose, 2014).

Collier (1957) found significant benefits to using photographs and images compared to 'words-alone' interviews. The major benefit suggested is that longer and richer interviews occur, because photo elicitation enables latent memory to be prodded, thus stimulating and enabling emotional statements to be released by the interviewee (Collier, 1957). Harper's work concluded *"...photo elicitation mines deeper shafts into a different part of human consciousness than do words-alone interviews"* (Harper, 2002, p. 22)

The prevalence of images in services marketing research

Although not widespread, evidence suggests that images are used as a methodological tool in some services marketing research, particularly when investigating metaphorical perceptions (Shin Rohani *et al*., 2014). Cederholm (2004) adopted photo elicitation to explore the views of tourists, arguing that the photos facilitated 'can opening' to enable deeper conversation to take place. Ganassali and Matysiewicz, found that using images led to better emotional granularity so that they were able to capture "deep contextual meanings of consumer experience" (Ganassali and Matysiewicz, 2018, p.4). Taking photos one-step further; video usage is also advocated as another method for exploring consumer perceptions of services marketing (Belk and Kozinets, 2005; Belk *et al*., 2018). Termed 'videography', the approach can be employed in a number of ways such as recording interviews and observations but can also be used by consumers to capture their own experiences (Kozinets and Belk, 2006). However, whilst photos have had some limited use in services marketing research, these approaches do not go as far as ZMET, which uses a combination of participant led discussion, photo elicitation and interviews organised around a laddering framework to facilitate a rigorous exploration of customer perceptions (Ji and King, 2018).

Adopting ZMET to understand customer service perceptions

Images and photographs form an integral part of ZMET, as participants select their own photos to represent their thoughts and feelings around a brand or product (Zaltman and Coulter, 1995). The photo or image therefore represents a surface 'metaphor' of their subconscious perceptions (Coulter *et al*, 2001). Put simply, the picture or image symbolises something else. Zaltman claims that the ZMET is successful because "*ZMET is a hybrid methodology grounded in various domains, including verbal and nonverbal communication, visual sociology, visual anthropology, literary criticism, semiotics, mental imagery, cognitive neuroscience and phototherapy*" (Zaltman and Coulter, 1995, p.47). The technique thus represents a departure from many marketing research tools as these tend to be verbo-centric, capturing participants' thoughts and feelings through language alone (Catchings-Castello, 2000). Developed by Gerald Zaltman in 1990, ZMET has been licensed commercially to elicit customer insights for large organisations such as Audi, Coca Cola, Mercedes and many other household names (Zaltman, 2003), particularly in advertising research. Other applications of ZMET can be found in Zaltman's (2012) studies of funeral services, and recently America's economic problems, demonstrating how the technique can potentially be applied to a range of practice-based situations. Beyond the commercial application of ZMET, there are a limited number of studies that have used ZMET in an academic service-based context, an example being Berry *et al*. (2006) researching service cues and recently Ji and King (2018) who explored diners' perceptions in a hospitality setting. Olson *et al*. (2009) proposed that ZMET can be used to support service innovation, explaining how architects developed a new children's hospital ward used the technique. They found that users identified images associated with a 'container' metaphor, suggesting that patients and parents felt cut off from the outside world, feeling trapped and isolated in the ward. These 'hidden' or subconscious associations were used in the development of a new, transformative hospital space, which specifically addressed the needs of the users.

ZMET is based on the premise that individuals see the world visually, our thoughts are 85% image based and perceptions often occur subconsciously (Zaltman, 1996). Accessing these thoughts, facilitated using images and photographs, therefore presents a source of new data for researchers that may not otherwise emerge through traditional qualitative techniques. Table 1 has been developed to demonstrate a comparison with other qualitative methods to compare various attributes, specifically methods enabling access to subconscious thoughts.

Table 1. Comparison of ZMET to other qualitative research methods for service research.

Research Method	Participant Led	Interviewer Led	Use of images	Time	Access Subconscious Thoughts	Depth	Source
ZMET	x		x	1-2hrs	x	Very Deep	(Zaltman, and Coulter, 1995)
Photo Elicitation	x	x	x	1 hr	x	Mid	(Cederholm, 2004)
Exploratory Interview		x		½ hr		Shallow	(Crouch and McKenzie, 2006)
Depth Interview				1 hr		Mid	(Bryman, 2012)
Repertory grid		x		1 hr		Mid	(Fransella, *et al*, 2004)
Critical Incident		x		1 hr	x	Deep	(Gremler, 2004)
Observation		x		2-3 hrs +		Mid	(Grove and Fisk, 1992)
Focus groups		x	x	1hr		Mid	(Stewart and Shamdasani, 2014)
Discourse analysis		x		10 hrs+		Mid	(Silverman, 2016)
Ethnography		x		Days/ weeks		Deep	(Elliott and Jankel-Elliott, 2003)

By using a photo, it acts as a stimulant during the interview (Zaltman, 1997) and through various questioning techniques; interviewees are encouraged to respond with a rich narrative to share their experiences. Using images as metaphors, the interviewer can gather data that goes beyond 'base' emotions, which can alter quickly (Zaltman and Coulter, 1995). Instead, the application of ZMET enables deeper emotions to emerge, which are more likely to reflect an individual's values and are less likely to change and thus remain stable over time (Longbottom and Modjtahedi, 2013). Another advantage of ZMET is that the research is driven by the participant, as opposed to the researcher (Ji and King, 2018). The participant is free to express their thoughts as they have total control over the selection of the images discussed in the interview, in contrast to other qualitative research methods, which rely on the researcher constructing interview questions and schedules based on the researcher's perspective of the issue (see Table 1). As Coulter *et al*. (2001) suggest, the interview that accompanies the discussion of the images enables the participants to engage in 'storytelling', which encourages further 'depth' material to emerge.

However, ZMET is not without its critics, the success of ZMET is dependent on the skill of the interviewer to overcome what Supphellen (2000) identifies as three basic problems of elicitation; the problem of access, the problem of verbalisation, and as a result of the context of the elicitation, that of censoring. She explains that 'access' is addressed through sufficient probing to get below what we already know. Verbalisation concerns the participant's inability to articulate their thoughts, which can be overcome by noting the other ways participants communicate such as through their body language and eye contact (Manusov and Patterson, 2006). The respondent may also hold back sensitive

information and 'censor' their responses when it arrives in conscious thought, therefore the use of probing and laddering techniques enables the interviewer to counter 'depth' deficit. Like other qualitative techniques, ZMET is resource intensive. A typical interview includes a pre-brief with the participant and a lengthy, in-depth interview and post interview respondent validation. Graphic artists may also be called upon to help with the collation of images. Analysis of these images, the metaphors and the associated interview materials can be complicated and time consuming (Zeithaml *et al.*, 2001; Goffin *et al.*, 2010).

In sum, whilst the ZMET technique offers potential advantages to uncovering an individual's subconscious thoughts, the relatively small number of studies, which use ZMET in the literature, do not provide enough clear guidance for use in academic practice, specifically how analysis should be conducted. Instead, these studies limit their explanation of the method to outlining the interview steps in brief with little explanation of the technique, in particular how to analyse the rich data (Khoo-Lattimore and Prideaux, 2013).

Our paper appraises the limited number of academic studies, which use ZMET and presents a comprehensive guide for academics on how to adopt this method for services marketing research. Up until this point, such a guide has not been present in the literature. By using an educational service setting, we can draw upon data from students to show how appropriate 'depth' materials can be gathered and analysed using ZMET to ensure rigour in qualitative research.

Understanding the ZMET process

ZMET has four guiding principles, grounded by several important facts about how the brain functions and how the human mind operates (Zaltman, 2003). Olson *et al.* (2009) commences with the unconscious mind, exploring unconscious meanings, customers reveal, "*What they don't know they know.*" Secondly, he argues that images are central "*components*" of the mind, thus the human mind operates visually rather than through words. Thirdly, the brain manipulates these images to create 'meaning patterns' at a deeper, fundamental level. Finally, using images as metaphors to symbolise an individual's thoughts are the key to unlocking these unconscious meanings. Whilst the studies provide scant detail on how to apply the ZMET process in academic research, Zaltman and Coulter (1995) do however, suggest that a set number of steps should be followed, specific to the ZMET process. Coulter *et al.* (2001) claim that the four stages are necessary as it ensures that all the appropriate data is captured. However, as Table 2 indicates, these stages lack useful guidance on how each stage would work in practice.

Table 2. Simplified stages of the ZMET Process

Stage 1	Stage 2	Stage 3	Stage 4
Candidates briefed on requirements. Candidates choose their own images.	*Interview candidates' 1 week later, using ZMET interview steps (1-8).*	*Create picture montage and digitise. Interview step (9)*	*Transcribe, analyse and develop constructs.*

The following sections will now explain how we followed and elaborated on these four stages in our study of student perceptions of their education in a UK University.

Stage 1: The Participant Briefing Phase

Coulter and Zaltman (1994) recommend that between 20-25 participants are required to participate in a ZMET study for it to be credible. Thus, 24 students from a UK University Business School, across 4 stages of study (1st year through to Postgraduate) participated in our study. However, the guidance does not specify how a sample should be selected. The authors therefore adopted a non-probability convenience approach to sampling, common in qualitative research (Bryman, 2012). The students were self-selecting because of responding to an email request to participate in the study sent by the authors to all business undergraduates and postgraduates studying in the School. The names of those that responded to the request were entered on to a spreadsheet and each person was then contacted to determine their availability. Students were then individually briefed using a pre-prepared script to ensure consistency. This script explained the study's aims, sought participant consent and provided reassurances relating to, for example, anonymity, confidentiality and the right to withdraw.

Additionally, the briefing also explained what the participants were required to do in relation to their selection of images to be discussed in a later interview. The students selected images over a week, from any source, such as their own photos, the internet and/or magazines, that they felt best symbolised their perception of their education and course.

In order to ensure the participants understood the format of the interview and how the method would work, an example from another study was shown by the researchers. This example consisted of six pictures chosen by one of the researchers, that represented their own thoughts and feelings associated with studying for a doctorate. These images are presented separately in Fig. 1 and as a montage in Fig. 2.

Fig. 1 *Six images chosen by the researcher.*   Fig. 2 *Montage PHD Journey*

Each of the six pictures was annotated by a one-line summary to help highlight the initial thinking of the participant. They were then shown all six pictures collectively, on one slide showing how the images related to one another. For example, in Fig. 2. the picture is dominated by the mountain image symbolising how the researcher's studies represented conquering a large obstacle. By linking the finishing flag with a rollercoaster, the researcher explained how the doctoral journey had been 'up and down' but had a clear end point. The montage, therefore, was a way of visually narrating the relationships between the six single images.

By showing the participants images representing the researcher's own personal feelings towards their studies, a level of trust and rapport was established between the participant and researcher. Building a relationship with participants in qualitative research, it is suggested, can encourage empathy and affiliation between the interviewer and interviewee thus leading to a more successful, rich discussion (Prior, 2018).

After the participant had received their full brief, each participant was told to select six to eight pictures or images. This is the suggested amount in the ZMET process as it encourages the participant to focus their thoughts and be selective when choosing their images. (Khoo-Lattimore and Prideaux, 2013) The participants were told that the images should evoke their feelings towards the following statement:

"*How do you perceive your experience of your course at our Business School?*"

An important point to note and concurs with Zaltman's (2003) guidance, is that participants were informed not to include images of the University or Business School directly, but to focus on images that represented their thoughts, feelings and emotions towards their course. Finally, the participant was informed that they must return for the interview stage in about seven to ten days' time and bring with them a PowerPoint presentation with the six images, including a one-line summary that summarised that particular picture. This period of time has not been specified in the literature; however it was felt by the researchers, that it was sufficient enough for the participant to source appropriate images. It also ensured that the interviewee was able to readily recall their reasons for choosing the picture in the first place.

Stage 2: The Depth Interview

One week later, the students were invited for a 90 minute one- to -one 'ZMET' interview. Each interview was recorded using a laptop with 'Panopto'™ software which also enabled the participant to view their images. This technique provided an unobtrusive way of recording accurately the participant's discussion, the images selected and any non-verbal actions for example, through body language and facial expressions.

Each interviewee was asked to load up the images onto the screen and then the participant-led interview commenced. The images created the stimulus for questioning of the candidate and a range of questioning techniques were adopted based on the limited guidance present in the literature (Zaltman, 2003; Zaltman and Coulter, 1995). The researchers found that nine steps are associated with the ZMET interview process to ensure that metaphors are elicited to the surface during the discussion, these are illustrated in Fig.3. Ji and King (2018) conclude that there has been little divergence from these steps since the 1990s.

Fig.3. Illustrates the four stages of ZMET and the nine interview steps
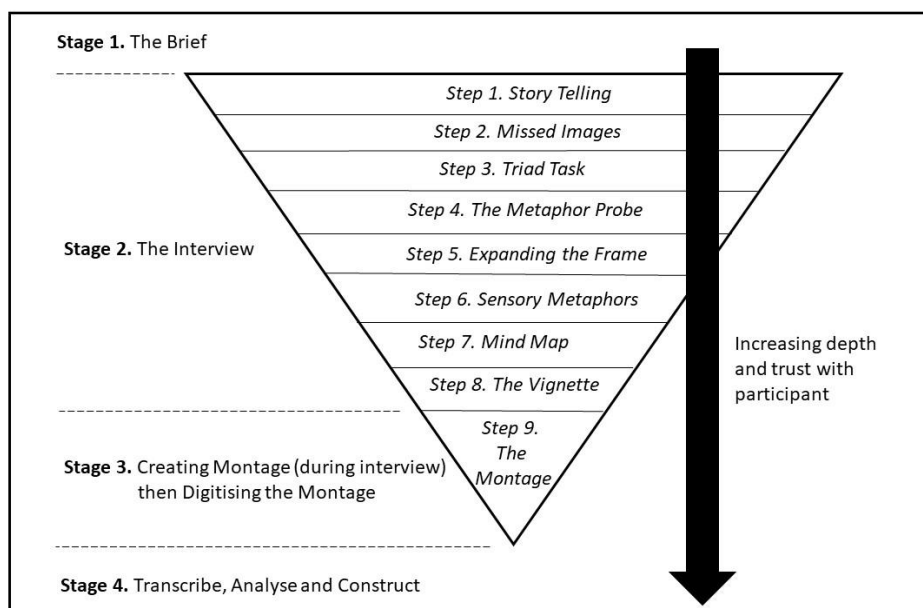
To help with understanding the process Fig. 4. depicts the pictures chosen at each stage in the process. The interview steps are discussed with examples clearly explaining how the researchers used these techniques in the study.

Fig.4. The ZMET process illustrated by images at each step of the interview.
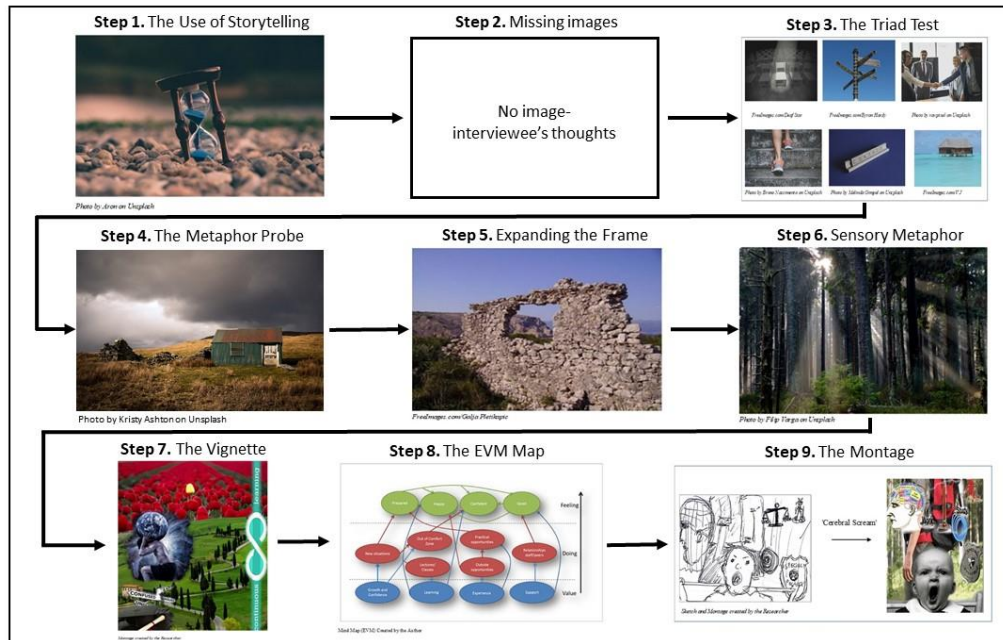
The Interview Steps

1. *The use of storytelling*: Participants should be encouraged to 'tell their stories' since it is suggested that people process and record their experiences as narratives (Martin, 2010). Zaltman (2003) argues that this allows the participant to naturally 'open up' and share their own interpretation of what the image means to them. By means of storytelling, metaphors stimulated by the images, emerge from the conversation. An example below illustrates how a 1st year student chose an hourglass timer (See Fig. 4) to represent how she felt about her course.

   "*Time passes so quickly you have to take every opportunity you have whilst at university, I think it's a very short space of time to get everything you need to be a graduate and be the graduate that employers want, I see it like a sand timer, it's ticking away and we've only got a certain amount of time to do things in, but in my mind that's just how it is. In a way it's quite scary and you feel like time is slipping away from you, time will keep ticking whether you keep up with it or not.*"

2. *Missed issues and images*: Zaltman and Coulter (1995) suggest that the researcher should ask the participant about any pictures they do not want to show or could not find and the reasons for this. By exploring missing images, further subconscious feelings may emerge. We found for example that one participant said "*I wanted to find a picture of a library and clock showing 24 hours, like it was always open 24/7, as ours doesn't and I really want to be able to go work in the library whenever I want, but can't…the shop is shut!*"

3. *Triad task*: The use of a 'triad task' allows the exploration of the meanings/differences between the images chosen by the researcher (Zaltman, 2003). Encouraging the participants to compare

the images may elicit further, deeper thoughts and a more holistic view of the phenomenon may emerge. See Fig. 4 an example of this is illustrated showing how the student linked the images chronologically, whilst studying.

How do these two images differ from this one? Participant: The two on the bottom, I feel like that's me right now, trying to get healthy. The top one on the right is me at the end of my time at university, trying to decide what to do and the other one on the bottom is me after I have made that choice.

4. *The metaphor probe*: Effective interview probes should be used to elicit the deeper metaphors held by participants. Zaltman (2003) claims an effective probe encourages the participant to consider what the image means to them. The questions that are posed are based on "*how does, have you or could you?*" These questions or probes use neutral language and should not reflect what the researcher is thinking or in any way influence the participant's views of the image. For example, the researcher studies the image and selects a relevant probe such as "*What does the dark cloud mean to you?*" followed by "*how does that make you feel?*". This enables the 'laddering' of questions that can lead to deeper level responses. The picture's role therefore is to help trigger initial thoughts, which may be potentially censored by the participant (Supphellen, 2000). Once the participant has finished talking about the image, a further probe is used such as "*Could you tell me a little more about the…*" and then later followed by an alternative probe. We found that this probing process should continue for at least a further 6 or 7 times until enough depth has been reached by the interviewer.

5. *Expanding the frame*: Coulter (2006) suggests that during the probing process, participants should be encouraged to discuss what is beyond what the picture currently represents. The participant must think what else may be present outside of the existing frame that has not been captured by the image. The following provides an example where the participant discussed how their course might facilitate employment (See Fig.4).

Beyond the wall there is freedom to do what you want, and nobody is trying to stop you. Opportunities career wise…. I see a positive landscape but at the same time I'm not naïve enough to think I would get a job straight away, so maybe some obstacles."

6. *Sensory (non-visual) metaphors*: The interviewer should encourage the participant to also consider their images in relation to sensory symbols such as, colour, smell, touch, taste and sound (Coulter, 2006). The following highlights an example of this taken from our study (See Fig. 4.)

If you were in that picture what would you smell?

INT: Really rich and earthy, you would be able to smell the air. It would smell warm.

How does that relate to your course?

INT: The first time, I came to look at the university and walked through the atrium and felt like this is where I want to be.

How did it make you feel?

INT: It was just so light and open. The feeling I got was so good. Everyone was so friendly, it wasn't that the other universities were bad, but I just loved this university when I came here.

7. *The Vignette:* Zaltman (2003) discusses the importance of the participant creating a story about the phenomenon being studied, which should capture their overall thoughts and feelings. It is recommended that three characters or elements should be included in the story, (1) their self, (2) the object and (3) what happened. We found, however, this element of the ZMET interview to be extremely challenging for the participant. Furthermore, the published research does not suggest how this might work in practice. Therefore, to help the participant formulate and verbalise their story, we encouraged participants to use the six images together. (See Fig. 4) This is an example of a postgraduate student's vignette:

> *"I am at the start of a new journey, I am wearing my graduation cap and looking at the road in front of me. I am faced with decisions; do I get a job, or do I continue with my masters? I am not sure? The journey is winding and going uphill, those trees are for me to take a break and reflect on my journey so far and to think where I am going. I feel like I always want to learn now as a PG student not because I must, but because I want to. I want to stand out like that yellow tulip - be different but still the same. But that's me now, I'm balancing the world on my shoulders, it's tricky, work, study and me time, it's tough balancing everything!"*

8. *The Mind Map*: Zaltman (2003) makes claim that a person's thoughts and feelings about a phenomenon are often interconnected. These connections can be represented figuratively in a 'Mind Map'. Whilst these may be developed individually, very often, different people share similar Mind Maps, for our study we termed the mind map an emotional value map (EVM). (See Fig.4)

Stage 3: *The Visual Executive Summary/Montage (The 'Ninth' Interview Step)*

In addition to the eight steps outlined above, the interview should end on the ninth step with the creation of a 'visual executive summary' (Zaltman, 2003) illustrating *how the images relate to each other* and how the images would look when compiled as a collage or montage. This stage is very important as it provides what Zaltman (2003) terms a 'snapshot' or window of their mind, in relation to the phenomenon being studied. Beyond highlighting the importance of the visual executive summary, the literature however provides little guidance on how this should be done. We chose to sketch the six images to create a montage in the presence of the participant closing the interview. The sketch was directed by the participant, who stated the position and size of the image and how they wanted to see the image in relation to the other images. The final stage was to transfer the images to Gimp 2™, creating a digital photo montage (See Fig. 5). Post interview, the participant was then sent the image via email, to confirm that this represented their views accurately. This process, which we adopted is in-line with other qualitative approaches to respondent validation, whereby participants are asked to review, for example, interview transcriptions for accuracy (Brewis, 2014). They were also asked to title the montage in order to capture the essence of their overall feelings of the subject. The montage is an important step of the process for the researcher, because it captures all the thoughts together ending the interview.

Fig. 5. Transferring the postgraduate's sketch to a digital montage - Titled: 'Cerebral Scream'
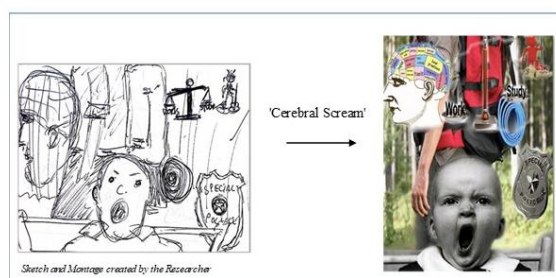
Stage 4: *Transcribe, Data Analysis and Develop Constructs.*

As suggested in Stage 4 (see Table 2), all the interviews were transcribed, and any relevant non-verbal actions were noted. These were collated with the participant's chosen images, the visual executive summary (montage) and mind maps (EVM). This rich data was analysed in its entirety to identify metaphors and related constructs with the aim of creating a 'consensus map' which highlighted the common themes to emerge from the ZMET (Zaltman, 2003). 'Consensus' is defined by Zaltman and Coulter (1995) as a frequency level for each individual construct so that at least one-third of the participants mention any given construct. They also suggest that a quarter of participants should indicate a relationship between constructs, before it can be added to the consensus map. The aim should be, therefore, to capture '*what people know, they do not know they know*'. (Zaltman and Zaltman, 2008, p. xi)

Whilst studies have explored how to conduct visual imagery analysis (Cederholm, 2004; Symon and Cassell, 2012), beyond these guidelines, there is little information on how the actual ZMET analysis should be conducted. The researchers therefore drew upon more well-established qualitative data analysis techniques which propose that data should be reduced through, for example, coding, theme identification and clustering (Huberman and Miles, 1998). Although not used in our study, as the researchers preferred manual methods to code the data, the analysis stage could use, for instance, NVivo as a software tool, to help code and identify themes in the transcripts, images and video recordings. We believe this may improve the quality and rigour of the method further, particularly given the multiple sources of data collected. In addition, we analysed the data across the participants as a collective, rather than just at the individual level, as this helped to identify common themes. The ZMET approach does not suggest this specifically, however we found a holistic analysis was beneficial.

As part of our data reduction, we developed a new stage to the process termed 'deep value mining'. Images chosen by candidates were analysed individually and collectively alongside the interview data. Analysis included looking for similar images chosen, or images that represented similar metaphors. This then led to a set of constructs, which were grouped, into "genres" and these represented identifiable categories of significance. Once no further constructs appeared, a distinct mental map was created, to illustrate the relationships of the various constructs of each participant and across the participants. The detail of this analytical process is now presented:

A Method of Visual Data Reduction - Deep Value Mining (DVM) 5 steps:

Step 1: Each candidate's six images were reviewed and coded separately in conjunction with the relevant interview transcript. Emerging themes were identified at the individual level.

Step 2: The montage for each participant was then analysed to understand the placement and size of the images, for example, certain images represented greater importance and thus were larger, but also how the candidates chose to place the image represented the connection between them. This clearly brought the individuals story together, alongside the transcripts from the interview. The montage captured how the candidate saw his or her own emotions and thoughts at the time of the interview.

Step 3: The candidates' six images in conjunction with the transcripts, across the 24 participants, (total of 144 images) were then analysed holistically, primarily to see if participants had chosen any similar images, and additionally if the meaning that the candidates placed on those images was similar. If so, these were grouped into themes to represent similarities across several participants. For example, where some participants had chosen a wall as a 'barrier' to their university experience, others had chosen a mountain or a river to represent the same thing.

Step 4: The candidates' montages were then analysed collectively, to establish if there were any common themes emerging from picture placement, size and nature of the images chosen and to establish if there are any similar stories emerging amongst the candidates.

Step 5: The final stage was to compile all the data and information to establish the final common themes and constructs that emerged from interviews.

To ensure quality and rigour of the ZMET process, we recommend that the steps and guidance outlined above should be followed carefully. We would encourage service marketing researchers to view this as a detailed protocol for conducting a ZMET study. Of the guidance provided, there are certain elements that we perceive to be crucial. Allowing the participant to have approximately a week to collect the images is essential as this encourages participants to be considered in their selection process. The interview should be at least one hour to ensure enough rich data emerges from the discussion – anything less would limit the opportunity to access the participants' subconscious thoughts. Furthermore, the interview steps should follow the recommended order, commencing with storytelling, as it is essential rapport and trust is established between the researcher and participant, before leading on to the more challenging probing and sensory questioning. Probing questions, as with other qualitative methods, enable the interviewer to exhaust the participant's perceptions and ensure rigor in the interviewing process. In a ZMET study these questions are essential to acquiring elicited thoughts, without the candidate naturally censoring their responses. Finally, we recommend that the presentation of the findings should be visual and include annotations to explain the images as the candidate intended.

Methodological contribution

Our application of ZMET to a service-based study found that initially this can be complex, mainly because there are several steps to comprehend and apply but very limited published guidance on how to conduct a ZMET interview in an academic study. As noted, ZMET is a US patented technique which requires a licence to use the official method for commercial projects. However as stated by Khoo-Lattimore and Prideaux (2013) this does not restrict its use in academic studies, as the one discussed here. But, even if academics want to employ ZMET, there is very little guidance on how to use it, despite the clear advantages of the approach. Whilst some guidance does exist, (Coulter and Zaltman, 1994; Zaltman, 2003) we argue that there is nothing published in relation to how this type of visual and verbal data should be analysed thoroughly. That said, we argue that the use of images enabled the interviewer to delve deeper than normal, when compared to 'words alone' interviews. The main benefit of using the images was that it generated richer dialogue from the interviewee, the participant tended to behave more naturally and was enthusiastic when explaining the image. A further benefit was that the participant did not appear to censor their thoughts, perhaps because the pictures created 'distance' between the participant and interviewer, as found to be the case with other projective techniques (Foster, 2011). Greater levels of trust were also established which meant that information was revealed when questions were not asked but instead when the participants commented on the images. In sum, the volume of rich information acquired through the ZMET process enabled the researchers to gain a service user perspective as the participants would have experienced it and as seen through their own eyes.

We argue that the ZMET process is versatile. The ZMET process has previously been limited to mainly product-based advertising. However, our application of the ZMET methodology has shown that it can be used to understand the nature of service, such as the student's perceptions of their university education and course delivery and in great depth, beyond what would be achieved through verbal interviews alone. We have drawn conclusions on the benefits and the cautions of using ZMET for services marketing researchers in Table 3.

Table 3. The benefits and the cautions of using ZMET for services marketing researchers

	BENEFIT	**CAUTION**
1.	ZMET is extremely useful for countering depth deficiency in services research projects – particularly understanding value creation.	*Ensure that there is necessary time planned to conduct the study. – (Interview and analysis)*
2.	Enables subconscious thoughts and emotions to be elicited with images.	*Allow participants to interpret their own images.*
3.	Provides a rigorous tried and tested qualitative approach.	*Ensure that the essential steps of ZMET are adopted for the study.*
4.	ZMET is relatively quick to grasp and no phycology training is required.	*Practice interviewing until confidence is gained with using probing questioning.*
5.	The method is particularly useful for services marketing because of visual experiences encountered by participants of their service experience.	*Ensure that participant choose images that reflect their thoughts and feeling – not images that reflect the actual place of service such as a picture of the retail store.*
6.	Provides a visual summary output of participants' thoughts and feelings in the form of a montage.	*Knowledge of using a photo editing software is required to get the best results from the participants.*
7.	ZMET captures a sensory perception by asking participants to immerse themselves into their chosen image. Particularly useful for services as participants experience a variety of sensory experiences.	*Allow trust with the participant to build before moving to this form of enquiry.*
8.	Participant enjoyment of the process.	*Provide sufficient time for participant to open upon up and build trust with the interviewer.*
9.	Richness and quantity of data acquired through each interview – helps provide the necessary depth for services research.	*Use Panopto™ on a laptop to help video record the interview session, and ensure participants provide images on a powerpoint slide prior to interview.*

By applying ZMET to a study of student perceptions of their university course, we have developed a comprehensive guide which can be used by academics wishing to use this technique in other service settings. ZMET is particularly suited to researching services, because customers experience visual and sensory stimuli which evoke feelings and emotions when exposed to services, such as when travelling, shopping or receiving medical treatments. In other words, they 'think subconsciously in images' when recalling these experiences. Furthermore, "photography is a powerful tool for accessing consumers' visual images" (Coulter and Zaltman, 1994, p.501), positioning ZMET as a unique methodology to elicit these service-based experiences. A key drawback of traditional qualitative techniques, such as focus groups, is that they do not encourage participants to explore their subconscious experiences and are interviewer led, meaning that the findings that emerge from these approaches, whilst useful, may not reveal the deep held perceptions of participants.

We have provided a level of detail to the stages of the process which has otherwise been absent resulting in a method 'blueprint' which can be followed by other researchers, particularly in terms of how to analyse the data and ensure rigour in the data collection. Through combining and cross analysing the images selected by the participants, we improve the level and depth of analysis. Previous studies have analysed the images only at the individual level but the transcripts at the aggregate level.

It should be noted though that undertaking this type of method requires a high-level of interviewer skill, particularly in terms of probing in the interview, layering interview questions and analysing complex verbal and visual materials. Pilot interviews may therefore be a way of overcoming a lack of interviewer confidence in this method. Researchers may also need to learn new skills relating to the use of photo manipulation software. This we found to be essential when the montages were created as part of the visual executive summary.

Using the photo elicitation method was not without its limitations and indeed, a few initial issues emerged that needed some considerable thought. Concerns relating to image copyright issues arose, especially in relation to publishing the images selected by the participants and the manipulation of these into a montage. Difficulties arise here when the licence holder must agree to the use of the image. A viable alternative to this is for participants to select images from a comprehensive commercial online photo stock account, such as Shutterstock, thus enabling the researchers to reprint the image and adhere to the copyright license. This also addresses the issue of participants selecting low definition images, which may make it difficult to interpret the meanings of the picture and are difficult to montage, leading to poor visual executive summaries.

Conclusion

This study has resulted in a comprehensive, rigorous guide for services marketing researchers wanting to adopt ZMET. It has also demonstrated that novel approaches to data collection may emerge from marketing practice. We argue that employing the ZMET method to explore perceptions of a service experience, counters 'depth deficit' (Mulvey and Kavalam, 2010) and thus enables a deeper understanding of customer service experiences, captured in *their own words and images*. We propose that this is a viable alternative method, which counters depth deficit, when compared to traditional qualitative 'words only' research approaches. However, the use of the method requires competent interview skills and enough time for both interview and analysis. Further research could help to refine the ZMET method by extending its application to other service settings such as travel, hospitality, banking and retail. Indeed, we argue that this method could be applied to numerous contexts where the research is attempting to expose the subconscious meanings people attach to a phenomenon.

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