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Chapter 56

Analysing Web Images

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Abstract

The visual is fundamental to internet experience which itself is an almost unavoidable feature of our lives as workers, consumers, family members, and as researchers. However, despite the recent interest in the visual in business and management research, web images have yet to become a key focus of analysis. This chapter discusses different forms of image found on the internet and explores ways in which these might be analysed.

Imagine for a moment the internet without images. Then consider your own organizational website or one relating to an organization you are researching; look at its coverage in the news or how it promotes its products online. It is likely you may even find more images than text. We suggest that these web images offer potential insights into a wide range contemporary of work-related debates of interest to business and

management researchers. Such insights might inform understandings of particular organizational processes or, as in our own research exploring constructions of age and ageing at work, inform an understanding of the internet as a critical communicative context for organizing, organizations and those working in them.

In this chapter we examine the potential of these data for informing research and consider key questions to pose when setting out on such a research project. Given the variety and potential of web images we first provide an overview of these data before exploring a specific example in depth to offer further methodological examination.

Key Words

Internet, web image, visual analysis, stock photography

Introduction

Having been relatively neglected in business and management research there is now increasing interest in researching the visual in a variety of forms. Within business and management, visual research has been used to analyse the way in which organizations use images, particularly in formal reporting (for example, Davison, 2010) and, via participatory approaches, as a means of exploring the experience of day to day work in across a range of organizational contexts (for example, Shortt and Warren, 2012).

Within the confines of this chapter it is not possible to provide an exhaustive or even extensive review of the burgeoning literature on visual analysis in general. There are a wide range of useful resources which offer advice and guidance on different approaches including many excellent books and journal papers (see, for example, Margolis and Pauwels, 2011; Acevedo and Warren, 2012; Davison et al., 2012; Bell and Davison, 2013; Meyer et al., 2013).

Researchers have also considered the importance of the internet to contemporary organizing and recognized that understanding how organizations use the internet (in recruitment, marketing and research activities, for example) has the potential to offer insight into many areas of concern to business and management scholars. The specific relevance will of course vary between different research topics and approaches. Some researchers may want to focus on organizational use of the internet, while others might be interested in employees' online commentary on organizational life. However, it is also apparent that the internet represents a critical communicative context for understanding organizing as an emergent activity that also takes place outside traditional work places. Web images are of relevance to researchers interested in any and all of the above, not least because they are integral to much internet usage.

However, to date, business and management studies of the web have largely focused on textual rather than visual aspects of the internet (Pauwels, 2011). Perhaps similarly to the way in which the embodied experience of an interview is often reduced to a

textual transcript, so engagement with the internet via web interfaces has often been reduced to an analysis of the textual components. Given the ever increasing visualization of web media (see Hodgkin, 2016 for examples of 1990's websites for comparison), it is becoming harder to ignore the volume of data discarded when such an approach is applied. Despite extensive exploration in other fields, web images are not commonly investigated within business and management research and there is correspondingly less discussion of their analysis (Bell and Davison, 2013; Emmison et al., 2012).

While there are many similarities with other forms of visual analysis there are also important differences for the researcher to consider. In particular the variety and fluidity of web images create particular research challenges (Pauwels, 2011), especially when considered alongside moves towards quantitative 'big data' (Dutton, 2013) understandings of the web. Such moves are of course themselves producing new forms of web imagery (see http://www.keywebmetrics.com/2013/07/big-data-visualizations/ for examples as varied as plate tectonics to the evolution of crayons).

After discussing the broad methodological issues in the early sections, later in this chapter we use examples from our own research (Pritchard and Whiting, 2015) which explores constructions of age at work, to provide a more detailed explanation of our experience of analysing one form of web image, the stock photograph. Used widely across the web and across a range of organizational processes these images are potentially influential in the (re)construction of understandings of age and ageing at

work. While there are inevitable limitations in focusing on one particular form of web image, this does allow us to explore more specific methodological issues so that readers can then adapt and apply these to their own research contexts. Therefore drawing on our own experiences we offer some preliminary guidance for researchers in this area while recognizing that the internet is a constantly evolving and sometimes unstable research context which requires re-appraisal in each new research encounter. Before this discussion we first consider the research opportunities offered by web images.

Why should business and management researchers be interested in web images?

As highlighted previously, the internet has become a prominent part of contemporary life (Kiesler, 2014) and the web has become a key area of business and commercial activity. In addition to companies that provide internet services (such as, for example, Google, Facebook and Twitter), many organizations use the internet to recruit employees, promote their products, orchestrate brands, obtain customer feedback and gather data related to their commercial activities (Loader and Dutton, 2012). In this way internet usage has become embedded in key organizational processes which may involve the use, circulation and consumption of web images.

In a wider context, topics of relevance to organizations and organizational life also feature in debates and discussions on various web media as groups and individuals engage with the internet to debate, promote or campaign with respect to management

issues (Muralidharan et al., 2011; Waters and Jamal, 2011). Again, images are embedded in such debates. Take, for example, debates regarding the future of the Port Talbot steel works in Wales in 2016. Coverage on a range of social media and news websites includes still and moving images of the plant at sunset, aerial photos of the area, pictures of protestors and banners, photographs of gleaming steel products and grimy furnaces along with individual photographs of key players in the government and industry (e.g. Kelsey, 2016; White, 2016). Various infographics, maps and other forms of image also feature across a wide range of internet sites and media (e.g. BBC, 2016). All of these images are produced and consumed as understandings of the steel industry in the UK are constructed and re-constituted across organizational boundaries. Researchers interested in a range of institutional, organizational and employee related aspects of business and management research might all conceivably be interested in such images. In sum it is important to recognize that key issues of interest to business and management research are entwined with internet use. This has 'impelled scholars to expand their view of organization… [re-examining] fundamental questions of organizational boundaries' (Sproull et al., 2007: 277).

Historically, internet research originated with examinations of corporate websites as business and management researchers tried to understand how organizations went about representing themselves on these new media. This has developed as researchers examined how organizational practices such as evaluation (Orlikowski and Scott, 2013) and recruitment have moved online, with interest in recruitment particularly prompted

by increased use of social media (Brown and Vaughn, 2011; Madera, 2012). Here we can see how boundaries of organizations and organizational processes are challenged when web use is the topic of exploration as a variety of actors may be involved. For example, recruitment activities might involve traditional job advertisements but also other forms of marketing and organizational promotion across a variety of channels. While such research in organizational use of the internet has continued, others have considered how issues as varied as generations at work (Pritchard and Whiting, 2014), corporate social responsibility (Coupland, 2005), diversity (Merilainen et al., 2009, Singh and Point, 2006) and work-life balance (Mescher et al., 2010) are socially constructed on the web. Thus research is starting to move beyond traditional organizational boundaries.

However it is still the case that most studies focus on textual aspects of web representation and/or communication, as in the above examples which examine constructs of interest to management scholars. While many studies include consideration of the ways text is represented and the presentation of website interfaces, web images have received less attention, despite explicit calls in areas such as gender studies (Acker, 2012). This is not the case in fields such as sociology, communication or media studies for example (Bell and Davison, 2013). Here, studies cover considerable breadth ranging from investigation into young girls' consumption of media images (Jackson et al., 2012) to representation of disease (Asberg and Lum, 2010), child poverty (Fink and Lomax, 2014) and the digitalization of war (Chouliaraki, 2015). Others in these fields have looked at the role of the web image in communication

processes more broadly, considering new genres and analysing forms of representation (Koliska and Roberts, 2015; Caple and Knox, 2012; Adami, 2015). These citations merely hint at the range and scope of literature available since an extensive review is beyond the scope of this chapter. Individuals researching specific topics should bear in mind the need to venture beyond traditional boundaries of business and management studies to explore literature relevant to their particular undertaking.

Where research in business and management studies has included a consideration of web images, our review suggests that a common approach is to categorize and count the visual elements (Elliott and Robinson, 2014). For example, Delmestri et al. (2015) present an analysis of the emblems and logos of 821 universities in a study of web-branding which uses content analysis to produce a typology of representations. This offers a useful consideration of a particular genre but sees the image translated and quantified, taking it beyond the scope of a volume which focuses on qualitative research.

Therefore while Emmison et al. (2012) recently highlighted how using web images poses both advantages (wide range and vast quantity of accessible images) and disadvantages (danger of overload and problems of authenticity) to researchers, it remains an under-researched genre of visual image in business and management studies. However before we can consider the analysis process in detail it is important to unpack the form and variety of web images available.

What are web images?

Before considering what we might do with web images within a particular research project, it is first worth considering what sort of data we are dealing with. At first glance the answer to this question might appear simple since surely a web image is any image that is accessed via the web, but this hides a huge complexity.

We start with what we mean by 'the web'. Here we are using this term as shorthand for Web 2.0 which refers to the evolution of the internet into a more interactive space (Coover, 2011; Fleischer, 2011). The terms web and internet are very commonly used but belie the variety of technologies involved and the myriad ways we might engage with others via these technologies (Markham, 2008). In some cases, web media recreate or make more easily accessible familiar print formats (such as a newspaper or company brochure). However, new forms of web media and means of communicating (such as blogging and tweeting) are now available. Organizations might use the internet to simply move an organizational process online but new processes and means of organizing might also emerge; all of which can incorporate a wide variety of images.

How we interact with the content and each other (as we like, share, recommend or re-tweet for example), both within and between different media, creates a dynamic

context (Pauwels, 2011) across which images are scattered (Bell et al., 2014). The constantly changing nature of what might be available as data makes this a particularly challenging environment in which to conduct research (Hare et al., 2014).

As the web has evolved and is used in ever more complex ways by an increasing array of users (inside and outside of organizations) for a seemingly endless list of purposes, so images are spread and shared across our interactions (Bell et al., 2014). Our engagement with web content thus becomes more complex as Fleischer suggests that 'a new type of active subject emerges: the prosumer (producer and consumer)' (2011: 538). This complicates our understanding of who has created or produced an image on the one hand and who consumes or views it on the other. At the same time it is suggested that boundaries between the online virtual world and our offline experiences are becoming increasingly blurred (Tonks et al., 2015). Images (along with many other forms of content) may move between these 'worlds' as we share them both virtually and in other forms of interaction. Within this complex context, Rämö goes so far as to suggest that in 'today's hyper-mediated society, images are in higher circulation than words and print, and there is a shifting relationship between word and image' (2011: 374). To illustrate this, taking an example of one form of image and one form of sharing, Tonks et al. (2015) report that at least 250 billion photos have now been uploaded to Facebook.

From our own experience, we suggest that reflexivity in a research project involving web images needs to start with an appraisal of our own understandings of the internet. In

particular we suggest that as researchers we should unpack our own use and understanding of these complex digital contexts (Pritchard and Whiting, 2012a). We found that our personal and research use of the internet shaped our views on how we 'saw' different images and regarded them as data. Indeed as our research in this area has progressed so our own use of various social media such as blogs (see for example our own research blog: https://ageatwork.wordpress.com/) and twitter (e.g. via @ageatwork) has increased as we use these to share and discuss our research. In this way the internet has become both the subject of and the medium for our own reflexivity.

Having considered the complex context of the web, we now review our understandings of web images. Given the variability and complexity of web images it is useful to apply a framework that can help us make sense of these data as we encounter them. Baetens (2013: 180) suggests that we can take three different approaches to understanding a web image depending on whether we focus our attention on 'the image properties, its use and or its social or cultural status'. Looking broadly at these areas is often the first step as the researcher seeks to unpack or discover what can seem rather basic information about the image before it is subjected to what we might think of as analysis proper (Pauwels, 2011).

Below we use these different foci as prompts to pose questions that enable us to unpack a web image:

- Image properties: What form does the image take? What do we know about the origination of the image?

- Image use: How does the image sit within a particular web context? How are images experienced differently via different forms of access?

- Social/cultural status: What is the purpose of the image? How is it being re-used or remarked upon?

What form does the image take? At the most basic level this involves deciding that we know what we are looking at. Making an initial assessment of the form of image is a useful starting point. For example, it is important to consider whether the image is still or moving and what medium has been used. It might be possible to assign an image to a particular genre such as a cartoon, a map or a photograph (or a specific sub-genre such as the stock photo, as we explore later). Indeed it has been suggested that we are seeing new genres emerge, such as the selfie (Koliska and Roberts, 2015). However this categorization may not always be straight forward. An image may be a composite of forms either originally or because it has become composite as it is posted to the web (for example, a photograph of a painting). Further changes can occur as an image moves across the internet and is shared in different ways.

Different visual media have well-established research traditions and it will often be necessary to consider these further once an understanding of the form of web image is reached. For example Barthes (1977; 1981) work on photography is still very much in

use when analysing photographs on the web despite predating widespread internet usage for the posting or sharing of photographs. However when web images comprise complex or composite forms and are not easily categorized or fit into many categories, they may need to be analysed from multiple perspectives. This may have implications for how the research project proceeds and in particular for the number of images that can be analysed. Later on we explore these implications in an example of our own research practice.

What do we know about the origination of the image? We might suppose that an image used in a particular web context has been created specifically for that purpose. However it is common for images to be purchased (from a stock image agency for example), or acquired via other (sometimes unofficial) means and then re-used. Some images may have been shared and circulated many times and perhaps been modified with each use. In our own research on age at work we have found images were sometimes manipulated to increase the apparent age differences of those portrayed. In one example from a news site we found that an image posted to illustrate a story about the battle between generations was very different from the original found on the photographer's own webpages, which was labelled as showing a different sort of battle, one between political parties. The terms 'airbrushing' and 'photoshopping' are now in common use to refer to the general practice of digitally editing photographs. Such digital editing may also include cases where an image has been censored via cropping, removing elements, pixilation or other form of redaction.

We might be tempted to assume that those images used by organizations are indeed images of that organization, its members, its buildings or materials. However it is important to consider that usage is no guarantee that we know the origin of an image. Similarly, we might assume that images posted on a personal webpage or social media account are taken or developed by the person to whom that account belongs. A popular news story (BBC, 2015) covered (with use of web images) the argument about ownership and rights to a 'selfie' produced when a monkey took its own photograph by pressing a camera left on a tripod, illustrating the range of actors that might need to be considered. Moreover we are seeing an increasing blurring between off and online contexts as it becomes ever easier to repurpose images (for example, by scanning) for use on the web. The issue of authenticity is thus a common area of discussion amongst those that analyse web images. For example, Rawlinson and Perraudin (2015) highlighted the issues that arise when stock photos are used to represent 'real' people (in this case individuals in receipt of what the UK government terms 'out of work' benefits) in promotional materials (here such accounts were later described as illustrative stories). Although originally part of a printed leaflet, both images and text were widely shared on the web via various social media as their authenticity became the subject of widespread debate.

How does the image sit within a particular web context? We can no longer talk of the web or the internet in singular or static terms. An image might be encountered in a huge

variety of ways on the web, sometimes intentionally but also unintentionally (for example due to autoplay, malware or pop-up adverts while browsing). Indeed the autoplay (in which a video plays automatically when the website is loaded) of moving images on some websites has been hotly debated, particularly when the individual might not otherwise choose to view the footage (for example the autoplay on some websites of footage of a shooting, Tomchak and Wilmer, 2015).

For those interested in researching management and business, an image might be the gateway to an organization's website or might offer an interactive means of following a particular news story about an employment related issue (Coover, 2011). Some images might be permanently available but others might appear only for a short space of time. An image may only be visible for a few days before being replaced by a more recent representation or perhaps disappear as the accompanying text or other web elements are deemed redundant. In our own research we encountered a situation where an organization released a report related to the topic of age at work via their website. Our initial view of the report showed an image (stock photograph) of 'hoodies' had been used to illustrate a group of young people on the report cover, however when re-visiting the organization's webpage a few days later we found that the image had been changed to one of smiling, smartly dressed young people.

How are images experienced differently via different forms of access? The web, and therefore web images, can be accessed via many different technological means. At one

time a desktop or laptop computer was the primary means through which we experienced the internet. Handheld devices such as smartphones and tablets are now common place with wearables [1] seen as the new emergent technology. However other fixed access devices such as game consoles and smart televisions are also increasing in popularity.

To explore the differences we can compare our experience of using a web or social media site via, for example, a computer and a hand-held device such as a smartphone. How we are able to view the image and interact with it will differ depending on the device capabilities. However, the web context surrounding an image is often context sensitive and may also reflect our personal internet usage. In our research we found a wide variety of advertising appeared depending on which of us had accessed the webpage to download the image, advertising that was also influenced by other family members' use of our devices.

What is the purpose of the image? While this can be the subject of in-depth analysis, it is also useful to ask this question at a high level, perhaps when the researcher first encounters the image (Schroeder, 2007). Often we infer the purpose of an image based on our personal experience of the web and the norms that we are familiar with. We have already commented that a reflexive review of our own assumptions is a useful starting point in the research process. However a further question to ask here is what we assume about the purpose of the image when we first view it; did we categorize it in some way

as for example an advertising image, as a photo of a particular person such as a CEO or see it as a capturing an event that is reported in the news. In this way our initial assessments could lead us to considering the ways in which the web image is being positioned in relation to organizational processes. So extrapolating from the above: an advertising image in relation to marketing; an image of a CEO in relation to leadership; or an image used to illustrate debates about senior management pay. As well as viewing the image itself, this assessment may involve consideration of the positioning of the image in relation to text and in particular if there are textual cues surrounding the image. Captions and sub-headings can be of critical importance here (Caple, 2006) as well as relations to other images or features of the webpage. At this stage it may become essential to consider the focus of the image itself in relation to the research question and consider whether analysis of other elements might be included. Most commonly in business and management studies this might include adopting a broader discursive approach to consider text and images together (Bailey et al., 2009) or extending this to a multimodal analysis which reflects an interest in 'different modes and media of communication' (Bamberg, 2010: 897).

How has it been reused or remarked upon? Rose has highlighted the need to pay attention to the online circulation of web images (2015) in addition to her previously identified 'three sites of production, the image itself and its audiencing' (2012: 19). In the examples above of selfies (whether by animals or humans) and those in receipt of government benefits, we have already seen how circulation and comments online can

provide a further focus of analysis. This recognizes that images that might start off within a particular organizational process or context do not necessarily remain contained within it. This may require a research approach that moves beyond downloading or collecting an image for analysis to one which involves tracking or following an image over a period of time. This may pose further challenges for the researcher in deciding where and for how long such tracking might continue although the availablity of free tools such as Google image search (which enables search by uploaded photo as well as text search term) can prove useful here.

Asking these questions about the image properties, use and status (Baetens, 2013) offers a useful starting point for exploring web images. The answers to these questions may not be straightforward and several iterations may be necessary during a research project as the researchers' understanding shifts and changes as they become more familiar with the research context. However it is also important for a researcher to consider in detail the particular area of web imagery they are planning to research. Our own interest in web images has to date focused on a particular form – the stock photograph.

Stock images tend to be deliberately constructed using actors to depict a scene which may utilize props or staging (Ward, 2007). They are generally used to avoid the cost and time implications of commissioning a new photograph; this is especially useful for organizations who wish to quickly access a range of quality images. Organizations such

as Alamy and Getty act as a mediator between photographers (both professional and amateur) and those seeking to use the images (van Dijck, 2008). Indeed, it is usually possible to identify a stock image by the attribution to a photo agency which may appear either instead of or alongside the photographer's name when the image is displayed. A successful stock image needs to be highly saleable; it must therefore fit a broad range of requirements and thus they may be generic and stereotypical (Ward, 2007). There are several stages or constructions of the image. Firstly the photographer's own ideas of what the image might represent, but, secondly, this may then be reviewed and repositioned (for example by tagging the image with a variety of popular labels) by the stock image agency to maximize sales. Thirdly, those purchasing the image do so with a particular use in mind. Therefore it is important to consider that 'the purchased image goes through a stage of recontextualization – combination with texts and other images and graphic elements during which it is often substantially altered' (Frosh, 2001: 634). Finally of course, the image is subject to interpretation as we view it alongside other elements via the web. (See both Frosh (2001; 2002) and Machin (2004) for a more extensive consideration of the stock image industry.)

Stock images are regarded as significant 'cultural text[s]' (Milestone and Meyer, 2012: 3) since 'we gradually come to accept them as showing us how the world really is' (Machin and van Leeuwen, 2007: 157). Stock photos are also important to organizational life particularly as they become enrolled in the construction of relevant subject positions such as, using an example from our own research, the 'older worker'. Frosh highlights that despite their wide use across a range of media there has been an 'alarming scholarly

and critical neglect' (2001: 626) of stock images across a range of fields. In the next section we provide a more detailed example of our own research of this type of web image.

Analysing web images: **an example**

In this section, we offer our own research as an example of analysing web images. This is not presented as ideal or best practice but rather as a means of reflexively exploring the opportunities and challenges. Our overall research project includes consideration of a range of textual and visual data and recognizes these as discursive resources which encompass a range of 'semiotic activity' (Fairclough, 1995: 54). Within this research we examine web data that represents a critical communicative context for understanding constructions of age and ageing at work. From this perspective images can normalise particular ways of being; legitimating some categories of identity or subject positions (Maguire and Hardy, 2009) in relation to age and work and denying and problematizing others. It is important to highlight therefore that our research does not take place within a particular organization but rather examines how understandings of age at work are constructed via web media that in turn shape and are shaped by day to day organizational life.

As part of this broader research project on age at work, one particular investigation explored web images of men and women of various ages answer the research question:

How are understandings of gendered ageing constructed and interpreted via stock photos? (see Pritchard and Whiting, 2015).

Elsewhere we have discussed our approach to collecting and analysing a variety of web data to examine understandings of age at work (Pritchard and Whiting, 2012a; 2014). Our overall study involved the systematic collection of web material about age at work using internet tools in a daily automated search process over 150 days during 2011/2 (see Pritchard and Whiting, 2012a and also Whiting and Pritchard, in this volume). Table 1 (below) summarises the key stages of our subsequent research in relation to analysing web images.

Table 1: Key stages in Analysing Web Images

Stage 1: Sample review	Detailed review of the whole data set was necessary to refine the sample to focus on the specific research question posed in this part of the research. Practical and ethical considerations (see also Whiting and Pritchard, in this volume) were also taken into account.
Stage 2: Visual analysis approaches selected & applied.	The approaches to visual analysis were selected based on fit and appropriateness given the range of images within the final sample. Researcher analysis was carried out applying three visual analytic frameworks to the sample.

Stage 3: Photo elicitation exercise	Group photo elicitation was conducted with a sub-sample of three images.
Stage 4: Drawing together analytic insights	Thematic analysis of participant responses with photo-elicitation prompted a further iteration of our own analysis. Findings were developed.

In the following sections we expand on these stages to describe our approach to analysing web images.

Stage 1: Sample Review: The first step was to sort the data identified by the automated tools. This was manually reviewed and downloaded. Various visual images including photographs, cartoons, video and infographics were included in these data. Using the research question as a guide, the process of sample review included:

- A review of web images forms collected. Based on this review, we made a decision to include only still photographic images within this particular analytic process.
- A review of practical and ethical issues. Practical issues considered included image quality and availability of subject and copyright information. Images were excluded from the sample where there was no identifying information enabling us to track the copyright of the image, where the image was poor quality or

comprised named individuals (since these would be difficult to obtain permission for use and would likely present ethical issues).

- A content review of the 120 images remaining in the data set after the first two stages of sample review. Working separately at first we each reviewed visual content and image properties (as discussed earlier in this chapter and drawing on Baetens, 2013). We then met to share our initial impressions of each image via an initial stage of description that is often recommended in visual analysis (Schroeder, 2007).

- A decision to focus on stock images was reached. While there were many different types of still photographs within the initial sample, our review identified that the majority of the images being used in online news stories that most closely related to our topic of interest were stock photographs. We then moved on to consider questions of image use (as outlined earlier and based on Baetens, 2013). This prompted us to look further at the literature on this image type (for example, Machin, 2004) and as a result we decided to focus on stock photographs in subsequent stages of analysis.

This decision to focus analysis on a particular form is a common approach adopted in research that aims to offer an in-depth analysis. We suggest this is sometimes a necessary pragmatic decision to make the subsequent analysis more manageable and to deliver outputs within a reasonable timescale.

All stock images were then reviewed to ensure relevance to our research question; we then selected those portraying a range of ages and that encompassed some aspect of work. For example, we excluded images of students in education and of older people pursuing leisure activities in retirement. The resulting sample size (16) was not set as a target but emerged from an iterative review as we worked separately and then together to review the images. Each researcher first completed an independent review and then we compared our selections. Photographs identified by both researchers were earmarked for further analysis and we then debated other selections before making a joint decision on their inclusion or exclusion. At this stage, our discussion expanded to consider many of those questions presented earlier as we reviewed and debated image properties, use and status (Baetens, 2013).

From this description it can be seen that we went through a fairly lengthy process to select our final 16 images for more detailed analysis. At each stage it is important to consider how this process of selecting images might impact the focus or scope of the research and of course the ability to generate insight relevant to the research question at hand.

Stage 2: Visual Analysis approaches selected: Having refined our sample, we then needed to decide how to approach the visual analysis of these web images. It is of course possible to use a wide range of methods depending in part on the type of image that is the focus of analysis. Indeed, depending on the broader focus of research it may be that

a decision is made to approach the analysis from a perspective in which the image is considered in conjunction with other web elements. As already mentioned this might involve adopting multimodal analysis (Kress, 2010; Caple and Knox, 2015) or some forms of discourse analysis. For example, Bailey et al. (2009) offer an explanation of using critical discourse analysis as an approach to looking at images and text, although here in a printed form. Our own analysis employed different perspectives of visual analysis which were selected based on an extensive review of the literature and on trying out different approaches with our sample to assess the different insights generated. This reflects Hook and Glaveanu's (2013) suggestions that visual analysts often apply a variety of approaches to generate different perspectives on an image. The three analytic frames applied were:

- Davison's (2010: 165) framework which particularly emphasizes paying attention to 'visual portraiture codes'. This fitted the portrait-character of our stock photos and is also widely used within the business and management literature.

- Rose's (2012) areas of investigation of the image: technological, compositional and social modalities particularly because of the applicability of her 'sites' of investigation to web images.

- Machin's (2004) developments of Kress and van Leeuwen's social semiotic approach (1996; van Leeuwen, 2005) as this specifically focuses on the generic and abstract potential of stock images.

In addition to these visual analytic approaches our analysis also considered the relationships between a stock photo and its surrounding web setting, in particular the

headlines and photo-captions which establish the links between the image and text, offering a suggested framing for each. In terms of carrying out the analysis, we first divided the 16 images between us. We then each used the above ideas to guide our interpretation and produced a (textual) analytic account. These accounts were then passed to the other author who added, annotated and questioned the account to add further interpretative depth, again using the concepts above as analytic prompts. An initial analytic account was written up and presented at a conference (Pritchard and Whiting, 2012b).

Stage 3: Photo-elicitation exercise: It would have been possible to conclude our analysis at this point. However when we presented our conference paper, discussions and questions from participants highlighted the potential of incorporating others' reactions to these images to develop our contribution. Parker has commented on the use of this approach to 'elicit individual and social constructions of different parties involved in the framing, content and/or viewing of photographs' (2009: 1115). Therefore, we subsequently undertook group photo-elicitation to gather others' views and to explore what Rose (2012) has called the site of 'audiencing'. This reflects our broader research concern with the ways in which understandings of age and ageing at work are constructed via web media, understandings that in turn shape and are shaped by day to day organizational life. For this particular stage of our research we further refined our sample and selected three images, choosing those that depicted a range of ages and genders in a poses that depicted their relationship to employment (see Pritchard and

Whiting, 2015). Our selection was therefore purposive but selecting a small number of images is typical for photo-elicitation so that participants can have sufficient time to review and respond to each image (Feighery, 2009; Meyer et al., 2013). At this point we also decided to purchase the rights for the use of these images in research and publication. This also gave us access to high quality images which were of further benefit to our own analysis and enabled us to provide clearer images to our participants. There is much debate about the extent to which researchers can rely on the fair dealing provision under copyright laws in respect of images reproduced for the purpose of research. However at the time we took the decision we had access to a limited amount of funding and decided that the benefit of high quality images was worth the cost involved [2]. We decided on a group rather than the more common one-to-one photo-elicitation interview (Kelan, 2012; Parker, 2009) as we had an opportunity to present the images during several forthcoming workshops. Overall 39 participants who self-identified as working in human resources or occupational psychology participated in the photo-elicitation stage.

A key challenge was the extent to which we might be able to recreate in these workshops a sense for the participants of how we ourselves encountered the images on the web. Based on a consideration of the practical implications, we decided to adopt the approach of both displaying the (colour) images on a large screen and providing a (black and white) printed copy to participants. In both formats, participants were shown both the high-resolution image on its own and a copy of the downloaded image in its original web context (via screen capture). We decided to show this so that participants could get a sense of the surrounding web-context including the accompanying news headlines.

However because of display limitations they could not read the detailed text of the accompanying news story. In each workshop, the paper copy provided to participants detailed their ethical rights and included an open response box under each image for them to complete individually. As the images were displayed, participants were asked simply 'what are your impressions of these photos' and to write their thoughts on the paper provided. We did not provide any additional guidelines as to what elements to focus on or how to structure their response so that participants were able to consider the photograph from whatever perspective they wished. In most cases this led to participants considering the scene that was depicted (for example a team meeting) and the role of different characters; some wrote notes while others constructed more elaborate stories about the scene (see analysis and images presented in Pritchard and Whiting, 2015 for examples). Participants could chat to others in the room and ask questions. We subsequently shared our own analysis of each image and discussed similarities and differences with the participants, though these discussions were not recorded. However, it is important to reflect that such discussions (here and indeed elsewhere as we discussed our research with colleagues) fed into further iterations of our own analysis.

Stage 4: Drawing together analytic insights: Given the free format approach adopted during the photo elicitation, we applied thematic analysis (King, 1998) to explore the participant data collected. Once we had analysed these data separately we then used the themes generated and mapped them onto those from our own initial analysis, noting where they compared or contrasted. This provided a further reflexive prompt for our own analytic review of the images. Our full analysis of the images and participants

comments and the contribution to academic knowledge have been published elsewhere (Pritchard and Whiting, 2015). Methodologically we learned a great deal during this exercise. For us a key benefit of including participants' views of the images was the variety and richness of interpretations that this generated, sometimes challenging our own analysis or offering alternative ways of seeing. Combining this with our own analysis gave a sound base from which to draw conclusions. However, during this process we inevitably focused on few images. Moreover a further challenge was the rather limited way in which we were able to present the images to participants as removed from their web context. It would be useful to explore ways in which mobile devices could be used in future, perhaps even via providing links to websites for participants to explore from their own devices. Of course it would also be possible to broaden a study beyond the web image itself and discuss with participants their response to other elements of the web interface, moving to a multimodal approach. Elsewhere we have found that this presents new challenges in managing the range and types of data while maintaining focus on a particular research problem (Whiting and Pritchard, 2015).

The way forward for analysing web images

It has been suggested that across all disciplines researchers 'struggle to keep up' (Tonks et al., 2015: 326) with technological developments that might enable or restrict the scope and practice of our undertakings. Web images offer an exciting and challenging opportunity for business and management research. It is important that we discuss and

debate the methodological challenges such research entails but we should not be afraid to experiment and apply the lessons learned by researchers in other fields.

A particular area we are keen to explore is the circulation of web images (and indeed web texts). Hare et al., (2014) suggest that rather than seeing data on the internet as 'there' for collection rather we should think of it as dipping into a constant stream of changing images, texts, sounds etc. This has significant implications for research practice. Firstly it impacts the way in which we understand the temporal aspects of research; highlighting the potential for shortitudinal (Sniehotta, 2009) as well as more traditional longitudinal approaches. Secondly, it highlights the need for flexible and engaged research processes that might enable us to, for example, follow images across the web rather than simply extracting them at one point in time.

A further challenge for qualitative researchers is the way in which notions of big data are becoming increasingly synonymous with internet research (Dutton, 2013). On the one hand this highlights the prominence of quantitative methods within internet research. These can produce topographical maps of internet phenomenon, illuminating the overall shape and form of the issues under consideration (Murthy, 2008). Yet such representations also set the scene and create interest in more in depth understandings of human/digital interactions as we navigate these maps, examining experiences shaped through and by the internet. Qualitative approaches, including the visual analysis of web images have much to offer in here. However we have much more methodological work

to do to secure a voice for such 'small data' qualitative approaches in a rapidly evolving 'big data' world.

Notes

(1) Whereas handheld devices are discrete objects, in wearable technology the device is integrated within an item of clothing or accessory such as a watch or pair of glasses (Tehrani and Michael, 2014).

(2) In this case, based on the purchase of rights to use the image in a single journal article and associated educational use associated with the research, we paid £40 per image. However, when requesting one of the same images for use within this chapter Sage were quoted £130, which was deemed too expensive. Therefore researchers need to bear in mind that costs will vary depending on the stock photograph itself, the agency involved and the proposed use of the image.

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