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Is Consumer Culture Theory research or realpolitik? A sociology of knowledge analysis of a scientific culture

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ABSTRACT

When Consumer Culture Theory (CCT) was introduced by Arnould and Thompson (2005) it was part of a strategy to create legitimacy for interpretive research. It was argued that interpretive researchers needed to be more pragmatic in their attitude. This was a fundamental change in the scientific culture in this stream of research. This paper analyses these changes and studies how CCT represents a new and pragmatic attitude. It is shown how the changes intended by CCT can imply a shift from a focus on new groundbreaking research to an awareness of the consequences of realpolitik. This strategic move can be seen as an example of how scientific cultures try to move from a marginal position to the mainstream. The consequences of this attempt to manage science are analysed, and solutions to problems created by these changes are developed. Copyright © 2016 John Wiley & Sons, Ltd.

INTRODUCTION

The second time around, the science marketers were more reserved. With amazement, Arnould and Thompson (2007: 4) observed the quick and wide diffusion of their latest branding achievement, named ‘CCT’ (Consumer Culture Theory). Ten years earlier, Thompson was commenting less modestly on the first deliberate branding approach of the same research tradition: ‘No other brand name—interpretivist, alternative, postpositivist, super-duper rigorous touchy, and feely stuff—sold as well to the field [as postmodernism]’ (Thompson, 1997a: 261). The strategic direction was the same: how to overcome the marginalized status of a research tradition that was known as, and even proudly wore the nametag, ‘weird science’ (Brown and Schau, 2007: 357).

The branding, or more broadly defined as the marketing of science, is not a new topic (Bagozzi, 1976; Fine, 1981; Cova et al., 2009). Most famously, when Peter and Olson (1983) tried to reverse the discussion of the scientific status of marketing by posing the question ‘Is science marketing?’. However, this issue is not bound to the post 1980 paradigmatic conflicts in consumer research. Older reflections (Lazer and Shaw, 1988; Sheth, 1992) and newer historical research (Tadajewski, 2006, 2010) point out that the ‘positivist’ orientation of marketing theory was directly shaped and formed in the 1950s and 1960s by political and social institutions (such as the Ford and Carnegie foundations).

Connecting the abstract world of science and the ‘real-world’ context of doing science is still a topic that raises feelings of awkwardness, unease, or even anxiety. On the one hand there is science: the rational, objective search of truth, governed by strict adherence to scientific knowledge. On the other hand, we have the intrusion of subjective criteria such as careers, promotions, the job market, professional obligations, and personal motivations. Usually, it is acknowledged that these issues matter, but they are often relegated to informal discussions, board meetings, or the occasional dinner address. There seems to be a widely held assumption in consumer research that the nitty-gritty management issues of academic life should be separate from the knowledge products of science (refer to as an exception Tadajewski (2008)).

The general direction of the branding procedures of Arnould and Thompson is a necessary step towards a more developed discussion of academic research, because they explicitly take into account the ‘realpolitik complexities’ of science (Arnould and Thompson, 2007: 6). Unfortunately, the discussion rests upon fragmented assumptions about the relationships between theory/knowledge and the status and social reproduction of academic cultures. In their 2013 contribution to the continuous CCT clarification article series (Thompson et al., 2013), they explicitly discuss the social realities and institutional impacts on knowledge production; however, the last step of a systematic integration is missing. In this article, they criticize the methodological individualist world of the agentic consumer as ‘a kind of symbolic supermarket in which autonomous consumers made selections, chose identities, and extended their core selves through the ownership and use of material goods’ (Thompson et al., 2013: 156). On the other side, a well-integrated CCT researcher has a ‘ready access’ to the supermarket shelves of ‘many ontological frameworks’ such as practice theories, cognitive anthropology, structuration theory, Foucauldian governmentality, and Butler’s performativity approach. (Thompson et al., 2013: 159).

If we take the discussion serious that emphasizes the blurring boundaries between work and consumption (e.g. Arvidsson, 2005; Dale, 2012; Bradshaw et al., 2013), we should be able to apply the consumer perspective to the researcher: how agentic is the researcher? It will be argued that this conceptually less integrated perspective can lead to a counterproductive outcome.

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The goal of the article is twofold. First, it presents the CCT discussion, embedded in a wider theoretical and empirical frame of academic cultures. As the higher education landscape is confronted with severe challenges of globalization, underfinanced mass universities, and a managerial spirit with a drive for efficiency and productivity (Henkel, 2000; Becher and Trowler, 2001; Hogan, 2012; Subramaniam et al., 2014), a thorough research stream is focussing on the link between science and the real world context. Second, it intends to make the inherent logic of the thought procedures in the CCT construction explicit through a deconstructive reading of the Arnould and Thompson articles (Atkins, 1983; Harland, 1987). With this method, we follow the dictum of CCT regarding the textual qualities of a wide range of artefacts, including theoretical publications (Holbrook and O’Shaughnessy, 1988; Brown, 2002).

In this way, the intention of the article is to point out how the discussion of the inherent problems of the CCT construction is relevant for the consumer research discipline as a whole, beyond an ongoing debate of different research camps in the ACR (Association for Consumer Research). A basic prerequisite for this discussion is making the intertwined relationship between science and the social field explicit and relegating this discussion from informal meetings with colleagues to the forefront of a strategically and theoretically sound debate on the future development of consumer research. This requires a reflexivity, which was already emphasized by Karl Mannheim, an important voice in the foundation of sociology of knowledge. In his approach to the theory of ideology, he explained how the critical analysis of an opponent’s political ideas and world-view is neither innocent nor neutral (Mannheim, 1936: 77). It requires another ideological world-view. Therefore, we end with a suggestion for reflexivity, whereby sociology of knowledge perspective integrates the social elements in the production of knowledge about consumer behaviour and acknowledges the researchers as well as the researched framings.

THE BACKGROUND STORY: THE CCT ARTICLES

The research tradition that came into the light with the ‘Consumer Esthetics and Holbrook, 1981) has lived through many labels: symbolic, alternative, qualitative, interpretive, hermeneutic, post-positivist, heretical or postmodern consumer research (Hudson and Ozanne, 1988; Hirschman, 1989; Sherry, 1991; Hirschman and Holbrook, 1992; Brown, 1995; Thompson, 1997b). In 2005, Arnould and Thompson published ‘Consumer Culture Theory (CCT): Twenty Years of Research’ in the Journal of Consumer Research and established the name ‘CCT’ for this research tradition. This was further manifested through the first CCT conference in 2006, which developed into an annual event with its own Doctoral course. CCT became an influential point of reference and a how-to-do guideline for what was formerly known mostly as interpretive consumer research. CCT took on a life of its own, beyond the control and intentions of the founding fathers. The child was so intractable that the founding fathers had to interfere with a follow up article (Arnould and Thompson, 2007), in which they tried to answer some of the questions raised by their critiques, or in Arnould and Thompson’s view, misperceptions, misunderstandings, and misreadings. After the second article (Arnould and Thompson, 2007), it became clear that CCT was now a powerful, influential label, and framing device. It also became obvious that CCT had conceptual ambiguities and the reception of the first article was not as neutral as the authors had intended. This experience led to the concept of ‘CCT heteroglossia’ (Thompson et al., 2013), which utilize the idea of Bakhtin of language as multi-accented and socially situated. Heteroglossia denies a single authorial control and represents a situation of multiplicity and dissent (Bakhtin, 1981: 376).

To better understand the criticism and reactions, it is important to point out the evolution of the first CCT article. This was not an individual research article, but was initiated by Dawn Iacobucci, at that time the editor of the Journal of Consumer Research (the story is verified by email correspondence with Eric Arnould in May 2014). She asked all the area editors of JCR to write reflective pieces that distilled their respective areas of expertise. To keep the number of articles manageable, she grouped the area editors into teams, based on their paradigmatic ties. Eric Arnould and Craig Thompson were asked to write about postmodern consumer research, which they called CCT. Arnould and Thompson’s (2005) was the first of the reflective articles to be published. The other contributions were published in Journal of Consumer Research in June of 2006.

It is difficult to understand how the authors could repress the idea that the article would be read as a manifesto for consumer culture theory. First drafts of the article were presented both at the North American ACR conference in 2004 and the European ACR conference in Gothenburg, Sweden in 2005 and created heated discussions (Arnould and Thompson, 2007: 4; Thompson et al., 2013: 162). The methodological claims of CCT about the interpretive agencies of the reader as in reader-response theory (Scott, 1994) or a Foucauldian discourse analysis (Thompson, 2004) would assume such effects.

A main emphasis in the second CCT article was to point out the levels and audiences of the first CCT article. Here, Arnould and Thompson stress the target audiences of PhD students and young assistant professors on the one hand, and the established, broader marketing community on the other hand (Arnould and Thompson, 2007: 3). With these different audiences, the strategic directions were split as well. First, the framework for summarizing the existing research should have a theoretical value helping not yet fully initiated CCT researchers to better understand the existing, diverse research. Second, the branding approach had a pragmatic focus: changing the marginalized status of the CCT tradition. To reach this goal, the CCT concept was constructed to make the ideas behind CCT more accessible and to be perceived by the mainstream as less esoteric and more practically relevant. In the end, we have two forms of CCT: CCT1, representing the purely research orientation and CCT2, representing the pragmatic and instrumental version. In the third CCT article
(Thompson et al., 2013), focussing more on internal tensions and ambiguities, the main dichotomous structure is based on the CCT novice and the CCT professional. From our point of view the initial dichotomy leads to severe problems when it comes to improving the theoretical work of doing science, as well as the pragmatic work of establishing the institutional background for doing science. Before the inherent logic of the two forms of CCT is analysed, the background for combining both aspects is discussed.

LAYERS OF SCIENTIFIC CULTURES

According to the received view in marketing science, empirical reality is usually restricted to phenomena: something to be analysed by scientists (Hunt, 1983). The possibility that the empirical world influences scientists or the production of scientific knowledge is excluded (Meja and Stehr, 1999). Laws are discovered and accumulated, independent from the colour of skin, religious beliefs, gender, or nationality of scientists. In this conception, a normative logic is developed in which a particular code of conduct is responsible for the production of objective fact. A famous example is Robert K. Merton, who developed the concept of scientific ethos, defined as an ‘emotionally toned complex of rules, prescriptions, beliefs, values, and presuppositions which are held to be binding’ (Merton, 1973: 26). These rules work to safeguard science from the social field.

Starting with the work of Thomas S. Kuhn (1970), the new sociological approaches of science evolved, taking a different point of view on the relationship between science and the empirical world. Scientific knowledge is not seen anymore as the innocent, transparent representation of nature, but relative to a particular culture (Pickering, 1992: 5). What makes the difference between empty marks on sheets of paper and accepted scientific laws and theories are scientific communities that share a consensus about a certain paradigm. A community of scientists, united by education, professional interaction, and communication, share a paradigm (Kuhn, 1970: 182). In this way, a scientific discipline begins to be defined sociologically.

In the first CCT article, Arnould and Thompson (2005) excluded the seminal science debate of the 1980s, in which interpretive consumer research tried to destabilize the hegemony of a singular scientific method and introduced the sociology of science. They justified this omission by pointing to existing overviews of the debate. They rather focussed on providing a thematic framework by noting that this was not present in the literature (Arnould and Thompson, 2005: 869). However, in the second CCT article, they had to clarify misunderstandings based on differences in conceptions of the philosophy of science, and insisted on the rock solid embedding of CCT in the sociology of scientific knowledge (Arnould and Thompson, 2007: 5). Oddly enough, their subsequent discussion of practical solutions to overcoming the marginalization of the CCT community lacks acknowledgement of the rich works that have been published in this area. Instead of focussing on the complex relationships of individual, disciplinary, and institutional frames in which scientific knowledge is produced, they argue for a change in these modes of production, using ‘thought leaders’ and establishing social networks with influential individuals in the marketing mainstream (Arnould and Thompson, 2007: 18).

In the third CCT article, they finally gave an overview of the genealogy of the first CCT interpretation, again referring only in passing to the philosophy of science discussions but emphasizing the socio-political forces that shaped the emergence of CCT (Thompson et al., 2013: 154). While the discussion has now changed towards a clear social and institutional embeddedness of research streams, the collection of forces and structures are pointed out but not systematically integrated. In this way, elements like status, nationality, or academic institution are mentioned, but the lack of conceptual integration is shown when differences between North American and European scholars are related to Business Schools and colonization anxieties. Albeit, the different traditions, histories, and organizations of (public, private, for-profit) universities in the USA and Europe are not invoked (Thompson et al., 2013: 162).

Before a more thorough analysis of their logic is developed, a short overview of basic concepts and ideas in the sociology of scientific knowledge is necessary. When Arnould and Thompson (2005: 877) ask for a change in the pragmatic orientation of CCT researchers, they refer to the ‘scientific culture’ of CCT. In this sense, they focus on the informal, scientific community as a network, resulting from direct and indirect interaction with other colleagues outside of the local academic institution. Scientific communities such as interpretive consumer research or behavioural decision theory shape their methods, standards, subjects, and traditions as well as role specific values (MacInnis and Valerie, 2010). The influence of the specific scientific community is strong, as it works as a peer group that negotiates the discipline’s hierarchy with an influence on individual careers (Tuire and Lehtinen, 2001; Tadajewski, 2008: 285; Musselin, 2013). The scientific community sets the standards with which the work of researchers is evaluated and their integration into the discipline is considered: ‘local control over scientific work is never complete and is mediated by reputational groups’ (Whitley, 1984: 70). Besides tacit knowledge, the scientific community is based on a moral order including vices and virtues (Ylijoki, 2000; Stone et al., 2013). Research on scientific cultures started with Snow’s (1959) concept of the ‘two cultures’ of science and humanities. More thorough and empirically based work is exemplified in the landmark study, ‘Academic tribes and territories’ by Becher (1989); Becher and Trowler, 2001, with a special focus on the relation between disciplinary cultures and the typical nature of knowledge (such as pure/applied and hard/soft). A potential change in the value orientation of CCT would be therefore connected with certain production modes of scientific knowledge.

Subsequent work on scientific cultures pointed out how disciplinary cultures are not static, but dynamically related to macro changes (Krause, 2014). Henkel (2000) emphasized higher education policies as an important factor for the dynamic of disciplinary cultures. Becher and Trowler (2001: 38) explicitly mention the influence of different social frames
for specific disciplinary cultures. Besides the infrastructural and political level, they add the institutional level (a type of higher educational institution, department, and faculty style), the differentiation between rural and urban modes of research, and the social mechanisms of convergent and divergent disciplines. A wider context describes national differences in the respective scientific cultures. Although, Arnould and Thompson (2007: 7) try to avoid an American ethnocentric perspective on CCT, it might be more a Freudian slip when they phrase their main topic as ‘the social re-production of CCT within the American marketing academy’ (Arnould and Thompson, 2007: 5). They later acknowledge a possible misunderstanding in explicitly discussing the North American, European, and southern hemisphere context (Thompson et al., 2013: 163). While data on broader national comparisons of disciplinary cultures are rare, the existing research shows a clear influence of national cultures on disciplinary cultures (Podgorecki, 1997; Ylijoki, 2000: 357). Even on the level of departmental organisation of disciplines, national differences have to be taken into account (Malcolm, 2004). Becher and Trowler (2001: 44) cite from their interviews within academic disciplines, academics talking about ‘typical French papers’, the ‘run-of-the-mill physics in Russia’, or the ‘heavy handed nature of German mechanical engineering’. These national differences are also reflected in the predominant focus on scientific cultures research.

On a broad level, Anglo-American research has a tendency to acknowledge the value influence of the institution. More congruent with a European intellectual history is the focus in the continental literature on the individual academic and/or disciplinary values as a main determinant (Välilmaa, 1998: 121). One reason is the stronger European tendency to unify the national higher education systems, while in the USA, there are more pronounced differences among institutions. Therefore, the position of universities as an entity with a specific culture and subsequent values is more established in the USA.

Although Arnould and Thompson seem to assume an existing shared commitment to the discipline, there are indications that the cohesion of disciplinary cultures in the form of academic communities is eroding. In this perspective, changing higher education institutions and policies has brought to light the dynamics of power, competition, and hierarchy in academic communities: ‘academics do not share a discipline base (…), they share conditions, status, and functions’ (Kogan et al., 1994: 28). Although this assessment might be exaggerated, it should be a warning not to equate ‘community and peers’ too easily with communitarian values, good and cozy relations, and a general ‘warm glow’ (Kogan, 2000: 209; Horrobin, 1982). There is still the need for an analysis of the different roles and functions within academic communities. None of the previously mentioned contextual and global factors are taken into account in the discussion of how to change the scientific culture of CCT.

Finally, a discussion of scientific cultures has to take into account the individual identities, goals, values, and motivations of researchers. Research on individual, academic culture started with a deductively derived set of prescriptive assumptions based on the philosophy of science conception: what is necessary to make the system of science possible. An example is Austin (1990: 62), who included ‘the focus on pursuing and disseminating knowledge, the recognition of the importance of academic freedom, the commitment to intellectual honesty, the value given to collegiality, and the commitment to service to society’. An example of less normative and more empirically based research is Hackett (1990), who found a set of value tensions, which dominates the life world of individual academics. In the marketing field, there is Hirschman (1985), who tried to identify personality types in relation to scientific styles, and follow up research by Leong et al. (1994), on a broader empirical basis. In Stiles (2004) research on management academics in Canada and Britain, it became clear that individual scientific values could be characterized by personal arrangements and negotiations with external demands. This research can be summarized in the sense that the times of Max Weber (1973) are long gone, in which an essential condition for becoming a scientist is to feel an ecstatic passion, to be completely caught up with an idea as if the fate of his/her soul depended on the accomplishment of the latest research project. The implication was that scientists should value disinterestedness and that scientific work should have a value in itself, apart from any personal motives or profits. Today the researcher’s individual academic identity is shaped by the disparity of academic professionals, from star professors to adjuncts, part-time faculty, and ‘academic wandering gypsies’ (Enders, 1999: 80). Empirically, individual academic culture is furthermore experienced as being in danger because of a de-professionalization of academic life and new managerial values, characterized by the two tendencies of ‘academic entrepreneurialism’ (Etzkowitz, 1983) and ‘academic managerialism’ (Deem and Johnson, 2000). Academic entrepreneurialism is seen as a result of changed university-industry relations, in which corporations are increasingly involved in universities, influencing research topics, methods, and the culture of the university (Hoffman, 2011). Academic managerialism refers mainly to a changed distribution of power in universities. New governance structures emphasize centralized administrative institutions, resulting in a loss of autonomy, diminished spans of control and greater surveillance, and accountability on the side of the faculty (Becher and Trowler, 2001: 12; Parker, 2014).

To talk about scientific cultures and their changes, it is necessary to take into account this dynamic system of internal and external variables. Primarily, there are micro-layers of individuals, meso-layers of institutions and discipline, and macro-layers of national and international relationships. In the CCT construction of Arnould and Thompson, neither of these aspects is theoretically integrated. In the following analysis, the intention is to deconstruct the inherent logic of the CCT articles that govern the discussion of changing the scientific culture of the research tradition.

THE CCT LOGIC OF RESEARCH AND REALPOLITIK

Our deconstructive reading of Arnould and Thompson (2005, 2007) reveals two different aspirations for CCT. The
first one is the hunt for new and groundbreaking knowledge, which has always been a part of the agenda for interpretive consumer research. The other ambition is to move CCT from a marginal position outside the mainstream into a position, in which this kind of research can achieve institutional legitimacy and power (Coskuner-Balli, 2013). These goals indicate that CCT research has been marginalized and has mainly focussed on striving for new knowledge. As it is clearly a part of Arnould and Thompson’s (2007) understanding of this issue that a scientific discipline cannot survive within the university system without both knowledge and power. The focus on both knowledge and power is a break with the self-image as a rebel in the interpretive research ‘movement’, which is the origin of CCT. It is not possible to understand the current CCT without remembering the antecedent movement, which could be entitled The Interpretive Turn (Sherry, 1991). Therefore, we will analyse how these two elements, scientific knowledge and empirical reality (here represented as power), were constructed in CCT, in relation to The Interpretive Turn. To do this, we use the semiotic square, an analytical framework developed by Greimas (1987, 1990), who used it for analysing narratives.

The semiotic square defines a phenomenon as a contradiction, based on the structuralistic approach to thinking as contradictions. The human being is, in a logical sense, stretched out between life and death. In our case, academic research is an activity that takes place at universities, and these activities are stretched out between knowledge and power (Figure 1).

The university as an institution was founded in Europe in the Middle Ages and was controlled by the Church. Thereby, the university was defined as an institution where power and knowledge were intertwined. Humboldt (1767–1835) coined the concept of the present day university as an institution neither governed by the Church or the State. As pointed out by Altbach (2001) this division is justified because activities pursuing the truth should be protected and independent. Hereby, there is shift in the perception of institutional power as an important factor in the development of knowledge for knowledge’s sake. To Merton (1973: 274) this ‘disinterestedness’ is the core value of a scientific ethos, and the scientists had to be motivated by the idea of a general advancement of science. They should not apply illegitimate means for their own gain (Merton, 1973). Today, the university is still defined by the interaction between knowledge and power, a reality Arnould and Thompson are well aware of.

As already indicated in the discussion of the sociology of scientific knowledge, the power–knowledge relationship is dynamic, and there has to be different strategies involved when it is to be decided how to deal with this relationship. These strategies can be perceived as narratives and analysed as such in the semiotic square (Greimas, 1987, 1990). At an abstract level, there are two ways to deal with the power–knowledge relationship if we adhere to the semiotic square. For the university as an institution the power–knowledge relationship is the logical foundation. The university is defined by the difference between these positions, and at the same time, one of the positions can only exist if it has a share of the other’s position. Power cannot exist without some knowledge, but it is, at the same time, the ‘supposed-to-know’ position, and thereby unconsciously satisfied by the knowledge it already possesses. The knowledge position is characterized by the continual striving for new knowledge. It can be described as the ‘want-to-know’ position. This aim for new and groundbreaking knowledge has as an implication, that the knowledge position cannot be too closely related to the power, because the power position is the ‘supposed-to-know’ position. As such, new and groundbreaking knowledge is not a part of the agenda, because it can undermine this position by changing the focus away from the power related to current knowledge.

Because the positions of power and knowledge are in a dynamic relationship it is possible to move from one to the other by using different strategies, perceived as narratives. The story about the development of CCT as told by Arnould and Thompson (2005, 2007) has the narrative of The Interpretive Turn (Sherry, 1991) as the point of origin for CCT. The first collective attempt to create an interpretative community was even entitled The Consumer Behavior Odyssey (Belk, 1991), using one the classical narratives in the Western world as a part of the title. Researchers, who were a part of The Interpretive Turn, did not succeed in developing the movement into a legitimate and recognized research position (Arnould and Thompson, 2005). It is Arnould and Thompson’s intention to change this situation through development of CCT. They want to move from the knowledge position to the power position by a narrative unfolded as branding strategies.

An analysis of the power-knowledge relationship as it was during The Interpretive Turn will have to take into consideration the pursuit for new knowledge, which could be groundbreaking compared with traditional mainstream knowledge. Another important issue was the opposition against the bonds to business (e.g., Holbrook, 1985), and because of that the power position of the business school was never achieved. These strategies can be described like this (Figure 2):

In the Greimasian semiotic, the knowledge position is negated into a non-knowledge position. This should not be understood as not-knowledge. Instead, it is a negation in a logical sense. These negations can be seen as logical tools by which we can build a bridge between the main contradictions. Since, the idea of pure knowledge, which is knowledge

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**Figure 2.**

![Figure 1 and Figure 2](https://example.com/figs/p1-page2-fig1-fig2.png)
for knowledge’s sake, is often understood as the researcher in the ivory tower (Arnould and Thompson, 2005: 875). When the position of knowledge is negated, then the researcher is seen as one who is participating in the world. To do this, the researcher needs to give up the idealistic perception of how to gain new knowledge and become pragmatic.

The researchers in The Interpretive Turn did not seem to have an interest in giving up the idealistic point of view for a more pragmatic position. Thereby, they were isolated from the mainstream and the power. There is a position in the semiotic square for isolation, because it is the logical negation of the power position. The non-power position is a situation in which the power cannot be managed and that is in isolation. It is often seen as a precondition for developing new and ground-breaking knowledge that the researcher is isolated from the power and the mainstream. This kind of knowledge is understood as pure, and as knowledge for knowledge’s sake. The researchers in The Interpretive Turn stayed in the knowledge–isolation relationship and they could, therefore, work on pure research (e.g. Belk, 1986; Holbrook, 1986). A consequence of this is a marginalized position in the field of consumer research.

Arnould and Thompson will not accept these conditions. They think that The Interpretive Turn and CCT should be recognized as a legitimate stream of research in consumer research and marketing. To do this, they accepted the pragmatic premises and participated in the mainstream community to be a part of the power position (Arnould and Thompson, 2007: 18). By doing so, they have to accept another premise, because they had to convince those in the power position to recognize CCT as a legitimate stream of research. This is performed by the CCT branding strategy. When they use such tools there is a problem, because the absolute power position is a place in which you are ‘supposed-to-know’. That is the logical opposite of ‘want-to-know’ in the knowledge position. Staying in the power position is the end of research as an activity and thereby the end of striving for new and ground-breaking knowledge. To move away from this dead-end (with its prestige and power), researchers need to be idealistic and isolate themselves mentally from the power position and the ‘taken-for-granted’ knowledge. Therefore, the researcher who wants to do research has to keep a distance from the power position and value the non-power position by taking on an idealistic point of view and thereby also recognizing isolation from the power position as a premise for doing research (Figure 3).

The two parts of the semiotic square, which has been presented so far, demonstrate some of the problems raised by Arnould and Thompson (2005, 2007), in which a hitherto non-mainstream movement as The Interpretive Turn is turned into an academic brand and marketed to the power position of universities. If the two parts are put together in semiotic square, we arrive at this model (Figure 4):

The model shows how the dialectical process in the knowledge power relationship is not simple. The exchange from one position to another requires that the exchange are reflected as a narrative process, in which somebody has to do something under certain conditions, with some implication. We have demonstrated how The Interpretive Turn did not want to be pragmatic and therefore could not move towards the power position. It is even possible that some of the researchers in The Interpretive Turn did not have an interest in being in the power position, and therefore, they stayed in the non-power position, isolated from the mainstream. In this isolated knowledge position, they could concentrate on doing research without thinking about the purpose for doing it. The non-power, isolated position can generate pure research, which is performed without a purpose except striving for new groundbreaking knowledge. Arnould and Thompson recognize the results gained by The Interpretive Turn, but they point out how The Interpretive Turn had to do something if they wanted to gain influence comparable to the research that has already been performed. Contrary to The Interpretive Turn, Arnould and Thompson do not mind being pragmatic, and therefore, they can move from the knowledge position towards the power position, and they already know that they need to participate by mingling with the mainstream, to move closer to the power position (Arnould and Thompson, 2007: 18).

When CCT aims for the power position the focus shifts from research to realpolitik. It is interesting that Arnould and Thompson (2007) refer to Foucault when they reflect upon the fact that ‘solutions to specific institutional dilemmas are never resolutions but rather reconstructions that pose new problems and dangers’ (2007: 4). Nevertheless, we think Arnould and Thompson are too optimistic in their focus on realpolitik, and they underestimate the long-term dangers in this perspective. In our view, this characterizes also the flawed idea of the CCT heteroglossia (Thompson et al., 2013). They emphasize the idea of a verbal utterance constructed in a matrix of sociolinguistic relations. However, they neglect the further explanations by Bakhtin (1981: 271) of a co-constitutive process of centripetal and centrifugal forces. While the CCT articles try to clarify, to unite, and foster agreement, they engage in centripetal forces. However, there is always the stubborn opposing force, the centrifugal force of language that is producing multiplicities, disagreement, and actually heteroglossia:
In the semiotic square, we have shown how isolation in the non-power position can generate groundbreaking research and new knowledge, and the participating non-knowledge position have to generate engaged participation in realpolitik to reach the power position. Despite Arnould and Thompson’s (2007: 5) claims not to aim for a normal science status for CCT, there is a revised framework for CCT research five pages later. When Arnould and Thompson are presenting a CCT article, it seems as if they always want to come up with new model for how to do research, and it can easily be understood as a normal science programme. This can even have its effect among those inside the CCT stream of research. That is, the danger of a heavy focus on realpolitik.

CONCLUSION

These insights from the analysis, based on the semiotic square, could be combined with our earlier discussion on the different research traditions. CCT is stretched between a CCT1 research, which is the research performed in The Interpretive Turn, and CCT2, which is research guided by an interest in realpolitik. As we see it, the two different perceptions of research have to be united in a position in which new and groundbreaking research is the goal. But this has to be performed based on a position in which basic contradictions between knowledge and power are reflected and are informed by the dynamic nexus of embedded scientific cultures (Figure 5).

In a courageous and very welcome way, Arnould and Thompson have lifted fundamental questions about the management of scientific cultures from backrooms to the centre stage of a public discussion. While these topics are of vital importance for the future of a small research stream in the broader consumer research area, they gain a wider significance by deeply connecting the scientific realm with the empirical world. Can we really separate the core activity of researchers ‘doing science’ from the managerial activities for the scientific community? And, if we want to improve the social reproduction of scientific culture, what is the best angle to start with?

Our analysis of their conception tried to point out that these important questions could run into the danger of a dangerous shortcut solution, in which (i) the contextual frames for scientific cultures and (ii) the modalities of moving between the knowledge/power nexus are neglected. To go beyond these limitations, we suggest the term reflexive research (Bourdieu and Wacquant, 1992), mediating between CCT1 and CCT2.

All our sympathy is with CCT1 research, because it represents the myth of the real university, in which scientists were striving for new groundbreaking research, guided only by their own, uncorrupted interests. As the sociology of scientific knowledge literature shows, this is only a myth. As much as a prescriptive system of scientific ethos tries to uphold that ideal, in concrete sociocultural settings, it is a contested terrain, constrained by obvious pressure, subtle intrusions of changing social values, and individual ambitions. It is possible to have this kind of research on a small scale as in The Interpretive Turn, but this kind of research will not continue if the involved researchers do not have some power and financial support to educate PhD students, who will continue the stream of research. Otherwise, interpretive research would disappear when the researchers who carry the paradigm die, to paraphrase Kuhn (1970). So it is not possible to stay in this isolated position if this kind of research is to continue in consumer research. Here, the integration of the social field with the knowledge/research complex becomes relevant. From the sociology of scientific knowledge perspective, two problems arise: what is the best strategy for the management of science and what are the internal consequences for the production of scientific knowledge? From a strategic standpoint, the Arnould and Thompson’s tendency to focus on changing the individual researcher’s behaviour presupposes homogeneity of interest and orientations. This overlooks the heterogeneity of the specific constellations of institutional, disciplinary, national cultural layers, and the individual researcher’s negotiation of value tensions. But even a strategic success can be damaging in terms of the internal impact of research. The consequences of the non-integrated realpolitik of CCT2 could be very positive from a short-term perspective. There would be better resources, and research would probably be expanded. But the long-term consequences are much more negative, because a stream of research needs to come up with new ideas and research topics. A close connection to the power position could easily determine what kind of ideas should be studied and with what kind methods. An indication for this widespread concern is the debate on the commercialization and the commodification of scholarship. Even if we do not agree with a necessarily antagonistic relationship between the values of knowledge and power, the required situational assessment is a symptom for mutual impact.

Reflexive research (Bourdieu, 2004) is the pragmatic position, striving for an idealistic mentality among researchers. It is a position with a focus on pragmatic aspects of research, but at the same time leaving room for the anarchistic nature of groundbreaking research. Reflexive research is characterized
REFERENCES


at a meta-level, in which the scientific culture can openly reflect upon how to deal with the conflicting reality of research.


INTRODUCTION

Most traditional research in academic disciplines is centrist. It focuses on research questions that are central to the evolution of a field. In the behavioral sciences, research areas such as attribution theory, behavioral decision theory, diffusion theory, and regulatory focus are just a few centrist topics that spawned hundreds of field-changing dissertations and articles. Yet not all started out as centrist. Many started on the periphery or boundary of what was then fashionable in their fields. Over time, however, they moved from idiosyncratic to impactful, from fringe to focus.

Boundary research exists on the fringes of all fields and sometimes ends up pushing these fields forward in spite of great resistance (such as evolutionary psychology – Buss, 1999), initial dismissal (such as behavioral economics – Myagkov and Plott, 1997), or general indifference (such as eating behavior – Rozin, 2007). Yet because such research often operates on blurred interdisciplinary lines, reviewers sometimes try and force it into a more centrist position, or they sometimes reject it as being a poor “fit” or “contribution” to the field even if they eventually end up being a classic (such as Griffin, 1997).

A one boundary researcher (and former editor) wrote, “I have found in my own research that my most innovative articles have had the toughest time in the review process. Those same articles, once published, have had the greatest impact (Rust, 2006).”

In light of this, how does one persist with an innovative article so that “once published, it has the greatest impact”? By building on the professional personal experiences of successful scholars in a variety of social science disciplines, this article offers tools that boundary researchers can use to help them move from being tentative to tenacious. It addresses the following issues:

- How many studies are enough?
- Writing for surprising impact
- Positioning alongside a larger theme
- Developing a research impact matrix for promotion
- Using the 3-year citation test to estimate a 10-year citation record
- Getting started in boundary research
- Avoiding career regrets

This begins with the encouraging history of how boundary research has broadened the impact of academia, and how it evolves from making more empirical contributions to making more theoretical contributions as it matures. We then describe specific tools boundary researchers can use to get started, published, promoted, and avoid career regret.

THE IMPORTANCE OF BOUNDARY RESEARCH

Boundary research is peripheral to the general focus of an academic field. Unlike a topic that is of narrow interest but has always been viewed as relevant to a field (such as scarcity theory in sociology, the Delboeuf illusion in psychology, or impulse buying in marketing), boundary research might appear to be tangential – maybe even unrelated – to the field of focus. It can be seen as too peripheral because it operates at the boundary of other disciplines (such as developmental psychology and music – Holbrook and Schindler, 1989, or anthropology and leisure studies – Arnold and Price, 1993). In other cases, it is peripheral because it is viewed as too applied. Such was the case with service quality, where the initial research in this area was widely rejected (Parasuraman et al., 1988) but has now been cited over 20,000 times and helped move service-quality research from fringe to focus within only 5 years of its initial publication (Zeithaml, 2016).

Boundary research differs from transformative consumer research (Viswanathan, 2011; Mick, 2005; Mick et al., 2012).
in that it is not necessarily aimed at improving social welfare, and it differs from activism research (Wansink, 2012, 2015) in that it does not necessarily need to be translational, practical, or application focused. Within its field, it might adopt or introduce new topics (behavioral economics), new perspectives (post-positivist explanations), new contexts (eating behaviors), or new methods (content analysis).

**How boundary research evolves**

Centrist research often examines a paradigm or general theory by identifying and testing moderating influences and possible mechanisms. In contrast, boundary research is often more exploratory. In the social sciences, boundary research seems to evolve in similar ways (e.g., Hanson, 1958; Kuhn, 1962). Scholars in a new area first define what they see (concepts), and they then organize these concepts into taxonomies (Figure 1). They next identify correlations between these concepts, test causality, and develop larger theories or paradigms.

The first stage of a field’s development involves defining new concepts (e.g., reference points, health halos, experiential consumption, and market orientation). If the limits of our language are the limits of our world (Wittgenstein, 1922), developing new words for new concepts can provide a more useful tool for advanced or nuanced thinking. The second stage of a field’s evolution involves usefully organizing the field into a taxonomy by distinguishing between different concepts, contexts (e.g., private versus public behavior), or outcomes (e.g., reaction time, attitude, behavioral intention, or consumption). Two illustrations of this are the recent taxonomies developed on identity-based consumer behavior (Reed et al., 2012) and on package-based influences on overeating (Chandon, 2013).

After useful taxonomies and distinctions are created, the third stage of evolution is to discover how these concepts are related by searching for correlations. This can be carried out by using observational analyses, surveys, or existing databases. With enough correlational evidence, the fourth stage uses lab studies or field studies to test for causality. Given enough evidence of causal relationships, the fifth and final stage involves developing theories (and possibly even an eventual paradigm). While centrist research operates in the fourth or fifth stage of this evolutionary development in Figure 1, boundary research usually makes initial contributions in the first three stages.

This predictable evolution of science suggests why new subfields – like new seedling trees in a crowded forest – often struggle. Because they are still developing new definitions, distinctions, and taxonomies, they cannot stand up to a toe-to-toe comparison from reviewers and editors who are more familiar and comfortable with established centrist topic areas. Boundary research is at a different stage of development. Because of the struggle and the risk, young scholars are usually advised to steer clear of boundary research by established scholars who do the same (with fortunate exceptions such as Belk et al., 1989; Rust et al., 2004; Mick et al., 2012).

Because of the importance of boundary research to the development and impact of a field, some proponents might say that boundary research should be nurtured and perhaps the standards should be lowered in the review process. This would be wrong. Such affirmative editorial actions for boundary research would marginalize legitimate contributions of this work among those who saw it as being given an unfair advantage. There are other solutions for reviewers, editors, and researchers.

For reviewers, perhaps boundary research can be reviewed differently. Although it has a less established theoretical basis, it is not less rigorous. As will be seen in the next two sections, this often magnifies the importance of its empirical contribution.

For editors, the review process often forces boundary papers to become more centrist – often causing them to lose what makes them unique. One solution would be to assign one reviewer whose main task is to focus on the boundary nature of the research. That is, the editor would need to clearly frame that reviewer’s task as being non-centrist. This might improve a manuscript’s chance of publication and impact without sacrificing its quality or its voice.

For researchers, knowing how boundary research can predictably evolve will call for more patience, persistent, and careful replication (Meyer, 2015). Moreover, knowing how it will be evaluated by reviewers and knowing what can and cannot be controlled can help minimize wasted effort and disappointment.

**Raising our expectations for boundary research**

Although the progress of an area of boundary research will generally evolve from empirical discoveries to larger general theories, some of the early contributions may be smaller or stylized theories. In helping boundary researchers better navigate a path toward impact, let us roughly categorize articles (the word “articles” will also refer to unpublished manuscripts) into two oversimplified categories: (i) articles that make more of a theoretical contribution (even though they involve empirical studies) or (ii) articles that make more of an empirical contribution (even though they may also offer a theory). With theoretical contributions, “there is nothing more practical than a good theory” (Ray, 1982). Unfortunately, it has been lamented that many theories in the social sciences are often demonstrated in only narrow or stylized situations. This may be why some psychology theories have been difficult to replicate, with some reported attempts showing 40 per cent consistency (Hennessey, 2015). Yet for a theory
to be both good and practical, it should be generalizable across contexts and should consistently predict and explain behavior in a variety of situations (Lynch et al., 2015).

With empirical contributions, robust findings can lead to confident changes in lives and in society. Showing that the same result is consistently found across a wide number of contexts and populations – that it might be found in lab situations, field situations, and observational studies – gives us confidence that this “finding is a fact.” Five MTurk studies or three in-class 101 studies can show replication, but not rigor. Consider how pantry stockpiling might influence one’s consumption rate of a food. An empirical contribution could involve a lab study that measures consumption likelihood, a store intercept study that measures consumption intentions, an in-home field study that measures reported consumption, and a scanner data study that infers consumption from repurchase.

Ideally, (Chandon and Wansink, 2002) all of our research would be both highly theoretically rigorous and highly empirically rigorous, and it would sit in the top right corner of Figure 2. Unfortunately, almost every published paper in even the best journals comes up short on one dimension or another. An article with a useful theory might have less convincing or generalizable empirical results, or an article that shows compelling results might only offer a plausible explanation for them.

For boundary research to be published in top journals, it needs to solidly be in the shaded areas of Figure 2. Either boundary research needs to have the empirical rigor that makes one confident of the robust findings (if not the mechanism), or it needs to have the theoretical rigor to make one confident of the mechanism (if not its general relevance).

How many studies are enough?
If even the best papers in the best journals come up a little bit short on either the theoretical or empirical dimension, how do you know if you need to add another study or redo the current one? When balancing the trade-offs between theoretical rigor and empirical rigor, editors and reviewers have their individual standards. Yet how can a researcher know when “enough is enough” and whether conducting an extra study would be worth it or a waste. The answer is different for centrist researchers than it is for boundary researchers. For centrist researchers, a top-down approach – theory to empirics – is efficient. Knowing the literature, the positioning, and the projected contribution can save the time and effort of running an unneeded study. While “Theory is King” with centrist research, the opposite might often be true with boundary research. If there is not much known about a field, it will probably need to evolve as illustrated in Figure 1. Initial contributions will define new concepts and offer new taxonomies, and empirical findings – correlational and then causal – will follow (Hardie et al., 1993). Only after a variety of initial findings are discovered can they then be pieced together into useful larger theories.

The quality of the theory generally determines the quality of the journal that publishes it (e.g., Alba and Hutchinson, 1987; Kohli and Jaworski, 1990). Useful, robust theories are published in top general journals (e.g., Science) or in top discipline journals (e.g., the Journal of Personality and Social Psychology or the Journal of Marketing Research). More narrow theories tend to be published in top sub-field journals, and less robust theories tend to be published in specialty journals or lower tier journals.

While narrow theoretical articles are published in smaller (less prestigious) journals because they are of less general appeal, empirical articles are published in smaller (less prestigious) journals because they have a limitation. They might be marginally significant and poorly measured, or they might have multiple explanations, but unless there was a flaw in the study, they can always be published if one is persistent enough.

Back when journal articles were only available only in print, the quality of the journal largely determined the impact an article had. A larger number of influential people read higher quality journals, whereas lower quality journals or very specialized journals often had fewer readers.

The web has democratized the impact of research. Open-access journals (e.g., PLOS One and BMC Public Health) or working paper aggregators (e.g., the Social Science Research Network and ResearchGate) have broadened the reach of research both within fields and across fields. Searching for “social facilitation and habits” gives 47,600 results across dozens of fields: psychology, zoology, physiology, education, communication economics, sociology, family medicine, animal behavior, music education, biology, nursing, appetite, motor behavior, and so on.

With the democratization of research, the more useful the discovery, the more impactful it can become. A great theory article in a top journal might be even more influential across fields than it otherwise would have been, but a more specialized or stylized article will benefit less. One hypothesis (H1) is that the impact of a theory might drop precipitously with the quality of the journal in which it was published (because “journal quality” may be a signal of “general usefulness”).

In contrast, a specific empirical finding can be helpful in supporting a theory in a totally different field – even if only correlational or with multiple explanations. As a result, empirical articles can be useful to others with less regard to

Figure 2. Theory versus empirical trade-offs in leading journals. This figure is available in colour online at wileyonlinelibrary.com/journal/cb
where they were published (H2). For example, early research on the influence of the image of a product’s region of origin (Parma ham, Champagne) on consumer product evaluation was widely cited in the food sciences, (agricultural) economics, nutrition dietetics, soil science, environmental studies, and urban studies. A study powerfully demonstrating how descriptive food names bias sensory perceptions and sales in restaurants was cited in food science technology, nutrition dietetics, behavioral sciences, public environmental and occupational health, psychology experimental, psychology social, psychology biology, physiology, neurosciences, and agricultural economics policy. This basic hypothesized relation is illustrated in Figure 3.

If Figure 3 is correct, its implications range from being encouraging to inspiring. It is encouraging to theoretical boundary researchers because it shows how they can use findings from other fields to build or support of their own theory. It is inspiring to empirical boundary researchers because it shows how these basic empirical articles – even if not published in a top journal – can have a broad impact far outside of their home field (as long as it uses the most relevant key words and search terms). Like many social science hypotheses, this suggested relationship (H1 and H2) could be empirically tested across fields.

GETTING PUBLISHED

Because of the unusual contexts in which some boundary research is conducted – restaurants, websites, convenience stores, vacation resorts, homeless shelters, and so forth – it can often be unfairly characterized by its context. Part of this is the reader’s fault because they fail to see that these are single illustrations within larger themes. Part of this is the researcher’s fault because we fail to clearly state how our single illustration actually does fit within a larger theme. Because the connection is not made with the larger theme, readers confuse the context versus the contribution. This raises two questions: How can boundary researchers write more clearly, and how can they better articulate the larger theme behind their work?

Writing for surprising academic impact

Advising a Ph.D. student to publish a rigorous theory with robust empirical results in the greatest journal in their field is no more helpful than advising a pole vaulter to go win a Gold Medal. A great goal requires a great plan and great execution.

Yet what is also needed is advice on how to write a more realistically publishable article that will still be useful or have an otherwise surprising impact. Articles in a boundary research area – because of its less defined pathway to success and still nascent appeal – might initially be mainly published in specialty journals or lower tier journals. If true, it would be useful to have advice on how to make these articles “sticky” (Huber, 2008) enough to have an impact wherever they are published.

For the past 10 years, one Advanced Consumer Research course has required its graduate students to personally interview admired researchers about their most surprisingly successful article. This interview was not to focus on the best article they ever published in their best journal. Instead, it was to focus on an article that was published in a less prestigious journal but which had a surprisingly successful impact on their career or on their field.

Of the 120 or so interviewed researchers, some off-handedly attributed the success of their article to the zeitgeist of the times or to their “instinct” of knowing what is important to their field. Others attributed the success to something external and uncontrollable, such as it being a lead article or winning an award.

But the more thoughtful researchers often talked about the challenge of the research question that led them to collect data in an unusual context, or to communicate it in a different way than they might otherwise have done. In short, they attributed their success to one or more of the following conditions (or 3Cs): (i) the challenge, (ii) the context, or (iii) the communication.

1. The challenge. Although it is obviously important to ask and answer an important research question, it was surprising that most of these questions did not originate in the literature of the field. Researchers often referred to a challenge that needed to be solved or “proven”. The intent was sometimes to definitively make a statement (e.g., Young and Nestle, 2003) and not necessarily to investigate mediators or moderating conditions.

Many questions were actually divorced from the literature in the field. Instead, they originated in a conversation, a debate, a lawsuit, or as an assumption behind policy proposals. One successful boundary research approach has been to quickly answer difficult questions that follow new technologies, such as eye-tracking (Pieters and Wedel, 2004), GPS technology (Hui et al., 2013), and smart shopping carts (Van Ittersum et al., 2013). Another has been to explore more meaningful ways consumers can use technology, whether it be for entertainment (Brasel and Gips, 2011; Scandra and Inman, 2014; Xu et al., 2014) or meaningful and potentially powerful ways of using social media (Yoon et al., 2006; Hennig-Thurau...
et al., 2010; Schellekens et al., 2010, 2013; Zhu et al., 2012; Toubia et al., 2014; Dahl et al., 2015).

There are many valuable sources for groundbreaking research ideas. A casual conversation about closed-loop supply chains resulted in research demonstrating that deterring third-party competition via preemptive remanufacturing may actually reduce profits (Agrawal et al., 2016). Economic litigation cases in the domain of copycatting triggered research to detect visual copycat brands (Satomura et al., 2014). Lawsuits against weight discrimination lead to research on how the weight of waiters influenced how much people ordered and drank in chain restaurants (Doering et al., 2016). Proposed cuts in sports program funding lead to research on the long-term correlation of sports participation and corporate leadership compared with other activities, such as being in student council or band (Kniffin et al., 2015).

2. The context. Specific people and specific places can bring research to life and make it notable and quotable. Some of these papers studied a population that was generally interesting because of their profession or past. These groups have included burglars, World War II combat veterans, triathlon athletes, Thai prostitutes, jazz musicians, and chronic shoplifters. Other populations were notable because they were an expert population that should not have been influenced by what was under investigation (judges being biased by the time of day of a trial, police officers being influenced by car colors, nutrition experts being biased by the size of ice cream bowls, or bartenders being influenced by the shape of barware).

Evocative locations made for surprisingly impactful research as well as frequently encountered locations. Many natural behaviors in natural locations outside of a lab were often surprisingly memorable. This included extreme eating behavior at State Fairs, shoplifting at Wal-Mart, closing time behavior at bars, bullying on playgrounds, pouring cough medicine, consuming chicken wings during a Super Bowl party, and bargaining behavior at garage sales. Although the points made in the articles were often fairly generalizable, they were all examined in a colorful, evocative, memorable context.

3. The communication. Surprisingly impactful articles were often written differently than an author’s typical articles. In some cases, they were written in a more succinct or pointed way. One theoretical article with two studies was rejected 14 times in psychology and marketing journals. Eventually, it was edited into a one-study paper that made one simple point, and it was accepted shortly thereafter by a leading medical journal. Similarly, another article was written as a review for a first year Ph.D. seminar. Because it was straightforwardly written and offered simple propositions, when it was eventually submitted to a journal and published, it greatly appealed to non-experts wanting to better understand the field.

Some articles became impactful because of their figures or tables. Other academics copied their simple and useful figures into lecture slides, modified them for other articles, or reprinted them in books. Tables that summarized literature or gave examples of implications stimulated new uses for the article’s theory or findings. In other cases, the ideas and illustrations in these tables were specific and generous enough to serve as an effective call for future related research.

Again, the best guarantee of research impact is to publish a rigorous theory with robust empirical results in the best journal in a field. Yet most boundary researchers will probably not progress and be promoted by waiting for this perfect convergence (Figure 2). Yet these 3Cs might provide a solidly deserving finding or theory the additional boost it needs to be surprisingly impactful even if published in a lower profile journal.

What’s the larger theme?
Each October, the Royal Swedish Academy presents five Nobel Prizes for transforming research in five fields. Each September, the Journal of Irreproducible Results presents 10 Ig Nobel Prizes in 10 fields for “research that first gets you to laugh and then to think.” It is a 3-day media circus of sold-out presentations at Harvard and MIT and a series of receptions, dinners, and parties.

The Ig Nobel prizes are research at its funniest. Some of these Ig Nobel prize-winning articles are truly ridiculous: a medical journal article about the types of injuries sustained by circus sword swallowers or a food science article on making ice cream out of cow dung. Yet while many others seem equally ridiculous – mathematically modeling wrinkle patterns on sheets or training pigeons to differentiate between paintings of Picasso and Monet – they end up being widely cited, having over 100 citations within their first 10 years of publication (Waber et al., 2008).

How does a widely cited, influential article become the punch line of a joke to the educated public? One explanation is that these Ig Nobel awards focus on the context of the research (wrinkly sheets) and not the larger theme of what the research represents (a demonstration of related topographical nonlinearities). For instance, one award winner showed that “bottomless” soup bowls caused people to overeat – making the point we eat with our eyes and not our stomach (Wansink et al., 2005). Another showed that controlling a full bladder decreases impulsive decisions – making the point that inhibitory signals are not domain specific (Tuk et al., 2011).

In short, each of these Ig Nobel award-winning articles provided a useful empirical insight that illuminates a larger theme. What is important about some of these articles – and why they had such a big impact on their field – is that their authors did not leave it to chance that readers would see these articles as illustrations of or contributions to a larger theme. They made that connection vivid and highly salient, such as magnifying the sound of a potato chip crunch to show how sound influences taste, thus illustrating the exaggerations...
that occur with multi-sensory experiences (Zampini and Spence, 2003).

Many boundary research papers do not clearly articulate the larger theme to which they contribute. They position themselves in the context or as a mid-level theory. Yet more successful papers have taken a clear finding or theory and have shown how it relates to a larger theme that has implications for theory, application, or policy. To illustrate, Table 1 shows how insightful recent publications in this journal reflect larger themes that could expand the value and use their findings.

“Larger themes” are not “future research.” While most papers have “Future Research” sections, they usually read like afterthoughts. They languidly suggest there should be replications or extensions, or they make a weak, vague call for related research. These sections are seldom generous with

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<tr>
<th>Title</th>
<th>Research conclusions</th>
<th>Larger themes</th>
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<tr>
<td>“Influencing light versus heavy engagers of harmful behaviour to curb their habits through positive and negative ad imagery” (Burton et al., 2015)</td>
<td>• Positive (gain-framed) messages reduce texting while driving and gambling intentions among heavy engagers&lt;br&gt;• Heavy engagers resist negative (loss-framed) messages and find them uninvolving or not credible&lt;br&gt;• Light engagers respond better to negative (loss-framed) messages</td>
<td>• Reactance to negative messages&lt;br&gt;• Gain vs. loss seeking in public health</td>
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<td>“The stability and sales contribution of heavy-buying households” (Romaniuk and Wight, 2015)</td>
<td>• 50% of heavy buyers of brands are not heavy buyers in a year, and 33% of them will not even be heavy category buyers in a year&lt;br&gt;• Heavy buying is not stable and may not be easily targeted or worth the long-term effort</td>
<td>• Habit change&lt;br&gt;• Intertemporal household purchase patterns</td>
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<td>“Antecedents of young adults' materialistic values” (Groupiou and Moschis, 2015)</td>
<td>• Disruptive family incidents in early life impair socioeconomic status and self-esteem and correlate with greater materialism at later life stages&lt;br&gt;• Low self-esteem alone has no effect&lt;br&gt;• A childhood that emphasizes autonomy and individualism (over compliance) correlates with higher materialism in young adults</td>
<td>• Psychographic predictors of preference&lt;br&gt;• Family materialism and expectations of children</td>
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<td>“Foreign brands in local cultures: a socio-cultural perspective of postmodern brandscapes” (Al-Mutawa et al., 2015)</td>
<td>• Social-cultural dynamics in Kuwait (religion and tradition) restrict sexual expression and dating&lt;br&gt;• Muslim women use luxury brands to express their sexuality, value, and expectations in alternative ways</td>
<td>• Sexual expression in nonsexual ways&lt;br&gt;• Personalizing the meaning of brands</td>
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<td>Living with terrorism or withdrawing in terror; perceived control and consumer avoidance (Herzenstein et al., 2015)</td>
<td>• Terrorism increases one’s desire for control and can lead to avoidance behavior&lt;br&gt;• When perception of control is low, preferences and consumption patterns change</td>
<td>• Coping with personal crises&lt;br&gt;• Long-term effects of traumatic results</td>
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<td>“Effects of consumer embarrassment on shopping basket size and value: A study of the millennial consumer” (Nichols et al., 2015)</td>
<td>• Consumers “mask” to avoid shopping embarrassment&lt;br&gt;• Masking leads to larger market baskets</td>
<td>• Consumption identity and impression management&lt;br&gt;• Embarrassment avoidance strategies</td>
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<td>“Children’s consumption behavior in response to food product placements in movies” (Matthes and Naderer, 2015)</td>
<td>• Frequent placement of food in movies had no influence on children’s attitudes toward the brand&lt;br&gt;• Frequent placement did influence immediate consumption&lt;br&gt;• There was no relation between attitude and behavior with 6–14-year-old children</td>
<td>• Predicting impulsivity&lt;br&gt;• Marketing research and children</td>
</tr>
<tr>
<td>“Extraordinary consumer experiences: why immersion and transformation cause trouble” (Lindberg and Østergaard, 2015)</td>
<td>• Co-created extraordinary experiences (wilderness canoeing) may not be better than more ordinary experiences&lt;br&gt;• Such experiences can contain unwanted paradoxes and ambiguity that exceed a consumers processing resources&lt;br&gt;• Role conflicts may interfere with transformation and immersion</td>
<td>• Consumer self-regulation&lt;br&gt;• Co-creation and enjoyment</td>
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ideas, and they seldom point at the larger theme to which their conclusions contribute.

As academics, we not only miss seeing the forest because we are staring at the trees. We often even miss seeing the trees because we are staring at their bark. Most of us never see the larger theme when we start a research study, and sometimes this only begins to emerge (if at all) after we have published a number of papers in that area.

How then can we challenge ourselves to see this larger theme? One way is to choose a target journal in your field and to imagine they were going to publish a special issue that would be the perfect fit for your specific paper. Next, write down the other topics of articles that you could also imagine being in that issue and that would compliment your article. By doing this exercise, you can usually find the larger theme related to your work because (i) it will be directly reflected in the title of the special issue you imagined or (ii) it will help identify larger commonalities between the articles you imagine would compliment yours in that issue. Interestingly, a sizable number of high-profile journals happen to regularly have special issues on specific themes. Two examples are the recent special issue of the Journal of Macromarketing on “Subsistence Marketplaces” (Viswanathan et al., 2014) as well as the special issue on “multi-channel retailing” of the Journal of Retailing (Verhoef et al., 2015). Other journals – such as the Journal of the Association of Consumer Research – dedicate each issue to a specific theme (Van Ittersum and Wansink, 2016). Trying to imagine the types of similar papers that could synergistically be published in a single issue of a journal – and not be redundant – can help us visualize and articulate the larger theme of our contribution.

GETTING PROMOTED

When many academics around the world are evaluated for promotion, their promotion case will be in a gray zone of uncertainty that is in the middle between the two black and white extremes. At the one dark extreme, there is the researcher who did not have a viable case for promotion and who would have been already coached to leave the university or would have been given a terminal contract. At the bright other extreme, there is the rare researcher with an unambiguously strong case who has either left for a larger or stronger department or who had a competing offer. Those who remain in between these extremes are in the unsettling gray zone of tenure or promotion. This is the important step where one goes from job insecurity to security. At different universities in different countries, this comes in different forms – it can be in the form of a new title, and new position, a longer contract, or permanent employment.

For these researchers – particularly if they are boundary researchers – it is critical for them to (i) highlight their productivity and past impact and (ii) show their promise for future impact. While every researcher attempts to write a research statement for promotion that highlights their past productivity and future impact, they usually do so subjectively and qualitatively. However, this research statement can also be written more precisely and less subjectively, and it can be more quantitatively compelling by using a research impact matrix and the 3-year citation test.

Developing a research impact matrix

Determining standards for promotion or tenure can be unpredictable when centrist researchers are in the gray zone, but it is even more volatile with boundary researchers. Boundary research records are often heterogeneous. Articles are published in different fields and in journals of varying quality; academic citations or media mentions can vary widely across some papers, and other papers can be completely ignored.

The contribution of boundary research is seldom clear, and senior researchers – committee members, reviewers, or voting faculty – might be unsure how to equate a two-page article in Science, a four-page article in Pediatrics, a quirky Brief Report in Psychological Science, an interestingly titled article in Environment & Behavior, and a methodological article in Marketing Science. It is like comparing apples, oranges, pineapples, kiwi, and watermelons – the articles are different lengths, from different fields, and with different purposes.

To prevent senior faculty from simply defaulting to “counting A-level publications,” a set of comparable metrics is needed. A two-page article in Science might trump a 20-page article in Marketing Science. A four-page article in Pediatrics that helps change medicine dosing advice to parents may trump a lead article in the Journal of Personality and Social Psychology that refines a construct.

Providing key metrics is critical for a boundary researcher going up for promotion. Consider four general metrics upon which heterogeneous articles can be compared: (i) journal quality, (ii) academic impact, (iii) media impact, and (iv) additional impact. Not all of these are relevant for all articles, but they can provide a “pick and choose” approach depending on the intent of a scholar’s research.

1. Journal quality. The gold standard of journal quality is its Impact Factor from the Social Science Citation Index (SSCI) database. This objective score indicates how many times the average article in that journal is cited each year. Whereas the average journal article in Pediatrics might be cited 9.2 times per year, the average journal article in Journal of the Academy of Nutrition and Dietetics might be cited only 3.9 times.

A second measure is the Rank Order within a field and the quartile into which the journal falls. This is useful in smaller fields where the journals have a low SSCI index (because of fewer scholars) but are still considered top quality in their field. (For instance, both Pediatrics and the Journal of the Academy of Nutrition and Dietetics are in the top quartile for their respective fields.)

2. Academic impact. One way to track one’s academic impact is to use the number of Web of Science citations.
4. Additional impact. This section can be stylized to whatever other types of impact a researcher wants an article to make. It can also provide a quick visual reference of how this article has been received in the field. It could include universities where this research has been presented, courses in which it is used, or the number of direct requests for working papers or reprints. It could involve how a finding may have been implemented or adopted by consumers, companies, or policy makers (although this rarely happens very quickly). This could also include awards the paper has obtained or direct quotes from media or other opinion leaders.

Table 2 gives an example of a research impact matrix that contributed to a successful tenured case in the USA. The names of the articles and publication dates are disguised, but the range of the journals, their quality, and their reception are instructive. What is important to note is that heterogeneous articles from heterogeneous journals can be summarized for reviewers and committees in a way that helps focus their evaluation. When used as a table or appendix in a tenure or promotion packet, this matrix can provide a useful narrative structure for describing the impact of a boundary research record.

The 3-year (Web of Science) citation test: will this article matter in 10 years?

Two key criteria for tenure and promotion are (i) how much have you published and (ii) how much will you publish? In general, you will be evaluated on your potential to have an impact on your field. Estimating the future impact of boundary research – or any research – is challenging in one’s early years. Most articles are recently published within the last 3 years and, therefore, have very few citations. Whereas a candidate may argue their research is on the cutting edge of a new trend, a senior researcher might instead simply view this as faddish or idiosyncratic and that it will have been largely ignored 10 years in the future.

A recent tenure case at a large US university generated some useful insights as to how to answer this question. A boundary researcher was focusing on an unusual topic and one that had political implications for diversity hiring. As an example (although this was not the topic), suppose the research is on how high-functioning teams under life-threatening situations (astronauts when there is a Apollo 13-level malfunction, Navy Seals when there is a Black Hawk Down disaster, and so on) differentially weight the opinions of team members who are similar to them in a way they do not fully understand – such as being gay or being viewed as a religious zealot. This researcher only had five articles but made the case that this topic would explode in importance over the next years. As a result, they would be the premier leader in a new sub-field of research that would have impact in multiple areas (discrimination, judgment making, social cognition, and public policy). Outside letters were mixed – some very positive and some negative – and the case had been rejected, appealed, accepted, rejected at a higher level, and appealed again. One key question was whether this research was going to be influential in the future. One pointed question was “Ten years from now, how many of these articles will have been cited at least 100 times?” This was shortened during discussions to being “Will these be Centennially-cited papers?”

During tenure and promotion discussions, it would have been useful to have an objective rule of thumb as to whether
Table 2. An illustration of a research impact matrix developed for promotion and tenure

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<tbody>
<tr>
<td>“A path analysis model of interstellar trade”</td>
<td><em>Journal of Marketing, 2011</em></td>
<td>3.819</td>
<td>Q1 Business</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>“Punchy or pathetic: article titles with colons are passé and should not be accepted”</td>
<td><em>PLOS ONE, 2013</em></td>
<td>3.534</td>
<td>Q1 Multidisciplinary Sciences</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>“How redundancy and restatement reduce interest in and reading of ads, web pages, journal articles, and so forth, etc.”</td>
<td><em>Journal of Consumer Research, 2012</em></td>
<td>2.783</td>
<td>Q1 Business</td>
<td>31</td>
<td>62</td>
</tr>
<tr>
<td>“A literature review involving”</td>
<td><em>Journal of Experimental</em></td>
<td>2.426</td>
<td>Q1 Applied Psychology</td>
<td>3</td>
<td>19</td>
</tr>
</tbody>
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(Continues)
Table 2. (Continued)

<table>
<thead>
<tr>
<th>Journal quality</th>
<th>Academic impact</th>
<th>Media impact</th>
<th>Social media impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title of article</strong></td>
<td><strong>Journal impact factor (SSCI within its rank order)</strong></td>
<td><strong># Google Scholar citations (e.g., 2nd of 23 citations)</strong></td>
<td><strong># media outlets</strong></td>
</tr>
<tr>
<td>“Sixth time a charm”</td>
<td>1.791 (Q2 Food Science &amp; Technology)</td>
<td>19</td>
<td>10</td>
</tr>
<tr>
<td>“Does professional editing effect the believability and credibility of findings?”</td>
<td>3.736 (Q1 Pediatrics)</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>“While this is an actual impact matrix of an actual tenure case, the paper titles and journal publication dates have been altered for privacy, but all of the remaining columns are actual entries.”</td>
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these articles would have a substantial impact in the future or whether they would still be “findings on the fringe,” as one reviewer had described them. To try and develop one rule of thumb, an analysis was conducted of 200 scholars in eight fields from the top 50 Ph.D. granting international universities (determined by the Gorman Report). For each scholar, one of their top-tier publications was randomly selected, and one of their lower tier publications was randomly selected. The number of Web of Science Web of Science annual citations for each article was then collected for each of the first 10 years of its history (Year 0 to 10).1 The goal was to estimate how many citations a new article would have in 10 years based on only the initial 2–3 years of its citation data.

It was found the first two full years following the year in which a paper is published provided both an intuitive and compelling estimate for the committee. Suppose a paper is published in June of 2016. A decent estimate of how many citations it will have in 10 years (2026) can be extrapolated from the total number of Web of Science citations it receives in the remainder of the year in which it was published (2016) as well as in the next two full years (2017 and 2018).2 Paper types that were highly cited after 10 years tended to also be relatively highly cited (including self-citations) immediately after they were published. If they received four to five citations in each of their first 2–3 years, they were likely to have 100 citations in 10 years. If they received one or two citations in each of these years, they were more likely to have 30 citations in 10 years. Although a Bass diffusion model yielded higher predictiveness, the simple rule of thumb was good enough for the committee. A paper that has 12+ citations in the Web of Science in years 0–2 after publication was 90 percent likely to have over 100 total citations in 10 years (Figure 4). A paper that has five to 10 citations in years 0–2 after publication was 70 percent likely to have between 40 and 80 publications. A paper with less than three citations was 80 percent likely to have fewer than 30 in 10 years (Wansink et al., 2016).

What about papers that are “slow starters”? Most academics have papers that have very few citations in the first years but which we believe will eventually catch fire and explode in terms of their academic impact. Sadly, this seldom happened with this sample. Nine of 10 highly cited papers were relatively quickly cited within their first 2–3 years (three to four citations per year). That is, they had 12 or more Web of Science citations in their first 3 years (including self-citations). Those with fewer than five total citations within the first two full years following the publication year were 90 percent likely to follow the flat “typical citation trajectory” in Figure 4.

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1The analysis was conducted using the Web of Science instead of Google Scholar for two reasons. First, the Web of Science conservatively counts citations in qualified journals and cannot be spuriously influenced (or “gamed”) by unmerited mentions of the article publically on legitimate or less legitimate websites. Second, Web of Science citation counts are available year by year, whereas Google Scholar currently only reports the total number of citations to date and not the trend of these citations for a specific paper (although they are privately available to the scholar themself).

2Additional adjustments could be performed in the first year the article was published (January versus June). Initial analyses aggregated across the different months of the first year. In practice, these extra months do not seem to substantially matter. Papers that are will be highly cited distinguish themselves in the first 24 months of being published.
### Table 3. Getting started with boundary research

<table>
<thead>
<tr>
<th>Career stage (and objective)</th>
<th>One possible plan</th>
<th>The rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior faculty (keep the fire burning)</td>
<td>1. Answer the question and then find the journal.</td>
<td>If you compellingly answer an important question, your paper will eventually be published. But scholars often first target a journal (e.g., “Let’s write a paper for JPSP”) and then start the research process. This can unnaturally constrain and bias the research question, context, and independent variables. Starting with the right question can give the right insight, even if you have to do another add-on study to make it JPSP worthy.</td>
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<tr>
<td></td>
<td>2. Think of a portfolio of target journals.</td>
<td>Write and submit to a variety of journals where you think your ideas will have the biggest impact. Even if these journals are not all premier journals, this strategy has three advantages: (i) it extends your ideas to multiple audiences, (ii) the publications still “count” toward tenure (except at the most elite institutions), and (iii) it keeps you in the game, it keeps you motivated, and it sharpens your skills as a researcher. Without some early publication victories, even at less prestigious journals, it is easy to become discouraged and let the fire burn out.</td>
</tr>
<tr>
<td></td>
<td>3. Team up with a senior scholar.</td>
<td>When you team up with an academically productive senior scholar, your joint work will almost certainly be published somewhere. When approaching this person, you need to clearly demonstrate what your value would be to the project and to their over-programmed schedule. Being prepared to do 85% of the legwork is a good start. Additionally, the right person can be a valuable confidant and advocate as you grow and move through the field.</td>
</tr>
<tr>
<td></td>
<td>4. Which school’s best?</td>
<td>Some professors are academic migrant workers. They start at one school and move until they find a school that is “a good fit.” Being at a school where you feel appreciated and productive is worth deceptively more than being at a more prestigious school where you feel neither. If it means being at the 45th-ranked school in the world instead of the 25th-ranked school, the difference is probably worth the trade-off for both your sense of well-being and your productivity. A difference of 20–30 ranking points is probably worth the trade-off. Beyond that, maybe not.</td>
</tr>
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*(Continues)*
There is some curvilinearity in these relationships, and there is some difference across fields. Still, this basic rule of thumb will be most useful to most boundary researchers who are putting together a case for their promotion. It can also be useful for committees making a decision on the future impact of recently published research.

GETTING STARTED

There is a temptation in academia to view publishing with a short time horizon. This is reasonable. If a dissertation is not completed on time, you lose your funding. If no papers are completed during a Ph.D. program, you do not get a good job. If there are not enough submissions as a third-year assistant professor, your contract is not renewed. If there are not enough acceptances after 7 years, you do not get promoted.

While a short-term focus is understandable, it could come at a cost. Centrist researchers have a more easily visualized path to quicker publication: Although those areas are crowded and competitive, the methodology is clear, the importance is clear, the critical references are clear, and the positioning is clear.

Yet if a person chooses a research topic because it seems like a quicker route to publication (or because their advisor suggested it), they are being externally motivated. Based on what we know about attribution theory, once the external motivation is taken away (once one becomes promoted or given tenure), there is a risk one’s motivation could die.

Although people commonly hope that after they are securely...
promoted, they can “then do the research they really want,” by that point, it is uncommon to see drastic changes. When these infrequent exceptions do occur, they are typically the exceptions that prove the rule (such as Belk, 1974, 1975, versus Belk, 1985). If a person was rewarded with tenure or promotion by working on a topic that their advisor – or the zeitgeist of the time – indicated was a good topic 10 years earlier, many will not stray more than a couple steps from that area for the rest of their career.

A notable academic once said, “We are not in academia to publish ten articles. We’re in it to publish a hundred” (Morrison, 1988). If one goal is to conduct research that will inspire you for a 100-article lifetime – and if that area happens to be boundary research – how should you start? Observations on how to begin differ for younger versus more established researchers – whether you are a junior faculty or senior faculty. Table 3 summarizes some different observations based on the personal experiences of some of the scholars who are thanked in the acknowledgements.

CONCLUSION: WHAT WILL BE YOUR BIGGEST REGRET?

In 2002, a professor from a top department at a top Big-Ten school was receiving a career contribution award at the annual spring meeting of the university’s Business Advisory Committee. He was one of the most notable economists at the university. He occupied a rare niche at the intersection of economics, real estate, finance, and law. He was widely published and widely influential, and people often spoke of him in awe. He had won numerous awards, and the rumor was that he was one of the most highly paid faculty in the business school. This year was his retirement year, and his speech would perhaps be his “Last Waltz” in front of a group like this. His talk went well, and the closing reception after the talk was well attended and filled with congratulations and appreciation. Later, as the crowd thinned out and private conversations were possible, he was asked, “In light of all of the remarkable things you’ve accomplished in your career, what’s your biggest professional regret?”

After an uncomfortable pause, he said he had one regret:

He chuckled and said, “In economics, they don’t reward books.”

After 45 years of research, here was a person who was retiring with one needless regret. Yet what he let get in his way was how he would be rewarded or whether a colleague might think he was simplifying his research for the uninitiated. For him, writing a book could have been a potentially transforming project. It could have focused on solutions, it could have clarified a series of debates, and it might have erased his regret. Given the relevance of this area, it could have become game changing.

Many examples of transforming books that fit the above take-away can be identified (such as Griffin et al., 2012; Otten and Maclaran, 2015). However, the metaphor that is relevant for us is not necessarily a book. It is any project that might ratchet up our level of influence in the area we are most passionate about. It is any project that might not be “rewarded with the respect of the professor next door,” but that we think is critically important. In fact, it might be actively derided. That is what happened to a number of metaphorical books. It happened to Carl Sagan’s award-winning “Cosmos” series on PBS, to Gary Becker’s Business Week columns, to Richard Posner’s federal judge appointment, and to Stephen Ambrose’s World War II Museum. Although they were not boundary areas of research, they were boundary projects that had lasting if not transforming influences on people. They launched science careers, changed investment strategies, increased individual freedoms, and gave a voice to the Greatest Generation.

This economist’s unwritten book can be a useful metaphor. Many researchers have at least one metaphorical book that would take their ideas to a new level of influence. It might be starting a website and blog, presenting research in front of a House Subcommittee in order to propose a law, making class modules for science teachers, writing a review article in a related field, or starting a new class and turning the notes into a MOOC. Transforming behavior is what many of us dream of doing. But, it cannot be guaranteed. Yet when we start with passion – even it is an area of boundary research – people notice.

One last comment that this economist made is particularly powerful when thinking about whether to follow an area of research passion before or after tenure or promotion. Later that night, after the reception, he spoke about how quickly his research years had passed. He said after he graduated with his Ph.D., he blinked and he had tenure; he blinked again and had an endowed chair; he blinked again and he was traveling to this event to make his speech. Waiting to follow your research passion only when “the time is right” is an opportunity that could disappear in three blinks of an eye.

BIOGRAPHICAL NOTES

Brian Wansink, is Professor and Director of the famed Cornell University Food and Brand Lab, where he is a leading expert in changing eating behavior - both on individual level and on a mass scale - using principles of behavioral science. He is the author of Mindless Eating and Slim by Design (which have been translated into over 25 languages) as well as over 200 peer-reviewed journal articles. From 2007 to 2009, he was White House appointed as
the USDA’s CNNP Executive Director in charge of the Dietary Guidelines for 2010 and the Food Guide Pyramid (MyPyramid.gov). He received his PhD from Stanford.

Koert van Ittersum is a Professor of Marketing and Consumer Well-being at the Faculty of Economics and Business, University of Groningen, the Netherlands. Van Ittersum conducts substantive research to help improve consumer well-being - a state of flourishing that involves health, happiness, and prosperity. His research represents a unique multidisciplinary blend of consumer psychology and marketing on the interface of in-store decision making, food consumption, and obesity. His work is widely cited in marketing, medicine, nutrition and dietetics, food science and technology, public, environmental, and occupation health, psychology, and economics and has drawn global media attention. He received his PhD from Wageningen University.

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DOI: 10.1002/cb
How consumers respond to missing a quantity discount with multiple price breaks

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ABSTRACT

This study investigates how consumers evaluate and respond to different discount schemes (i.e., one versus multiple price breaks) in the wake of a missed quantity discount. Two field experiments are conducted. The results demonstrate that promotions with multiple price breaks (e.g., 2 for 30% off and 3 for 40% off) result in a higher likelihood of purchasing one item at the regular price than promotions with only a single price break (e.g., 2 for 30% off) when a quantity discount is missed. The results of Experiment 2 reveal that increasing the number of price breaks (i.e., from two to three) can strengthen the assimilation of the advertised regular price into consumers’ internal reference price range when there is a greater interval between the two price breaks (e.g., 2 for 30% off, 5 for 40% off, and 8 for 50% off) and that subsequently raises consumers’ purchase likelihood if they are not able to take advantage of the promotional price. Finally, the effect of the discount scheme on purchase likelihood is shown to be mediated by the internal reference price. These observations have important implications for retailers.

The offering of a quantity discount is a fundamental pricing strategy in marketing. This occurs when the unit price is lowered with the purchase of larger quantities. For example, UNIQLO, a fashion apparel retailer, offers a “2 for 30% off” promotion (a quantity discount with a single price break) for their $25 shirts. ZARA, another popular clothing retailer, makes the following offer for a purchase of shirts at $25: “2 for 30% off and 3 for 40% off” (a quantity discount with two price breaks). The price break occurs when there is a change in the price offered (Benton, 1985). Retailers offer quantity discounts with one or multiple price breaks in an attempt to influence the consumers’ perceptions of the price and thereby entice them to purchase at least two, instead of one single unit of a product (Benton and Park, 1996). From the retailer’s perspective, the additional purchase will not only compensate for the lower profit margin because of the price discount, but will also serve to increase overall profit as a consequence of increasing the sales volume (Teng, 2009).

Although quantity discounts have been shown to be effective in terms of increasing sales volume, the outcome is not always positive (Wansink et al., 1998; Foubert and Gijsbrechts, 2007; Manning and Sprott, 2007). Several studies have examined the adverse effects of quantity discounts on the consumer side (Gu and Yang, 2010; Yoon and Vargas, 2010; Wu et al., 2012). Yoon and Vargas (2010), for example, found that consumers may experience frustration and feel worse when their expectation of receiving a quantity discount is not met. Wu and coauthors (2012) demonstrated that consumers who fail to receive a quantity discount reported the highest perceptions of unfairness and negative emotions. In another study, Gu and Yang (2010), after examining scanner panel data related to purchases of two major brands of light beer, concluded that quantity-discount-induced losses have a significant impact on consumer buying behavior.

Obviously, the quantity discount can be a double-edged sword. Consumers may perceive it as a gain when buying larger package sizes with lower unit prices, or as a loss when buying smaller package sizes with higher unit prices (Gu and Yang, 2010). Although the adverse effects of quantity discounts have been highlighted in several studies (Gu and Yang, 2010; Yoon and Vargas, 2010; Wu et al., 2012), the contextual influences that govern how consumers react in the wake of a missed quantity discount have not been systematically studied. More importantly, the best way for retailers to communicate price promotions so as to lessen the detrimental impact of quantity discounts on the consumers’ purchase decisions has not yet been investigated.

There is much evidence showing that consumer evaluations of price offers are heavily influenced by the decision context and situational cues (Aggarwal and Vaidyanathan, 2003; Rondan-Cataluña and Martin-Ruiz, 2011; Yoon and Vargas, 2011; Huang and Yang, 2015). This suggests that the form in which the quantity discount is expressed may change the consumers’ price estimates and subsequent consumption decisions. Accordingly, the objective of this study is to investigate whether and how the form of the quantity discount scheme (one versus multiple price breaks) plays a role in determining consumers’ buying decisions when the discount mentioned in the promotion is missed because the minimum purchase requirement is out of reach. The aim is to explore conditions that may diminish the negative influence of a quantity discount when a reduced price is missed and to examine the underlying mechanisms for this phenomenon.

Two field experiments are carried out. In the first experiment we establish whether consumers who cannot take advantage of the quantity discount are more likely to purchase one product unit at the regular price when the offer involves multiple price breaks (e.g., 2 for 30% off and 3 for 40% off) than only a single price break (e.g., 2 for 30% off).

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In the second experiment we examine whether increasing the number of price breaks will enhance the purchase likelihood of the consumer who has missed out on the quantity discount when the purchase quantities between the two price breaks (i.e., the interval size) are larger rather than smaller (e.g., a “2 for 30% off, 5 for 40% off, and 8 for 50% off” promotion). Finally, we test whether the effect of the discount scheme on purchase likelihood is mediated by the consumer’s internal reference price. The results should not only assist retailers in designing better promotional communication strategies but also make a broader contribution to the marketing literature by providing insight into the contextual influences that govern how consumers respond to the retailer’s quantity discount advertising when they fail to receive a lower promotional price.

THEORETICAL BACKGROUND

In a quantity discount advertisement (e.g., “Regularly $25. Now 2 for 30% off”), consumers are generally exposed to the pairing of an advertised regular price ($25) with a sale price (30% off) in an attempt to make the sale price more attractive and to lure consumers to purchase larger quantities during a single shopping trip. However, intensively highlighting information about the sale price can have negative effects. One such negative effect could be that providing people with information about a price reduction will lead to a decrease in the consumers’ internal reference price and, consequently, reduce their likelihood of purchasing an item at the regular price when they cannot take advantage of the quantity discount (Bambauer-Sachse and Dupuy, 2012).

To the consumers, the reduced price is an external cue notifying them that the retailer can afford to offer a lower price. Although consumers do not usually know the retailer’s cost structure, the disclosure of the price discrepancy provides a clue that leads them to infer the retailer’s cost, and subsequently update their internal reference price (Wu et al., 2012). In other words, the lower sale price affects the consumers’ beliefs as to what the product is worth to them. For example, when encountering a quantity discount promotion such as “Regularly $25. Now 2 for 30% off”, they may infer that this price covers product costs and that the profit margin is greater than 30%. This expectation leads them to negatively evaluate the full price when the quantity discount is retracted and ultimately results in a reduction in sales.

This is an unintended consequence of offering quantity discounts with one single price break. Although it is reasonable to offer lower prices for larger quantities and higher prices for smaller orders, consumers who miss out on a quantity discount seem unaware that they ought to pay a higher price because they are purchasing fewer than the quantity specified. In this study we propose a novel strategy to weaken the negative impact of quantity discounts on consumers’ purchase decisions, namely, to offer quantity discounts with multiple price breaks such as “2 for 30% off and 3 for 40% off” instead of one price break. Multiple price breaks can serve as a contextual cue, an interpretive frame that reminds the consumers of the real meaning of a quantity discount—that is, different quantities will result in different prices. Thus, even if the consumers miss out on the quantity discount, the regular price for a single product item will be considered plausible and thus accepted and assimilated into the internal expected price range, which in turn will encourage them to purchase. Adaptation-level and assimilation-contrast theories offer some insight into this process.

Strength of assimilative processes

In adaptation-level theory (Helson, 1964) it is assumed that the consumers judge the stimuli, such as the quantity discount, in relation to their own internal reference price. An internal reference price is a weighted average of prior product prices that can be retrieved from memory or constructed using retrieved and currently available information (Kan et al., 2014). According to adaptation-level theory, the consumers’ internal reference price represents adaptation to three classes of cues: focal cues are those cues to which a consumer responds directly, contextual cues are all other stimuli within which the focal cue functions, and organic cues which pertain to the inner physiological and psychological processes that affect behavior (Monroe, 1990). In a quantity discount context, the advertised regular price and sale price are focal cues, whereas the wording “Regularly ___, Now N for ___” is the contextual cue.

Assimilation-contrast theory postulates that consumers have a latitude of acceptance in their beliefs concerning price (Sherif and Hovland, 1961; Sherif, 1963). Retailer-supplied reference prices (e.g., advertised regular price and sale price) that fall within this latitude are considered reasonable and thus assimilated, and the internal reference price is adjusted toward the retailer-supplied reference prices. On the other hand, retailer-supplied reference prices falling outside the latitude are considered implausible (i.e., not believable) and are thus contrasted. A contrast effect has little impact on the internal price range. According to this theory, contextual factors influence the acceptance of the retailer-supplied reference prices as valid by setting the circumstances in which consumers perceive reference prices (Lichtenstein et al., 1991).

The implication derived from adaptation-level and assimilation-contrast theories is that although a sale price may cause the consumer to adjust their internal reference price downward or even replace it, the ability of the regular price to increase the internal expected price range depends on contextual cues. In other words, changing the description of “Regularly ___, Now N for ___” (i.e., the contextual cue) in a quantity discount advertisement may strengthen the influence of the regular price on the internal reference price when the lower sale price is missed. However, the question arises as to what kind of changes should be made to strengthen the degree of assimilation so that the consumers’ internal reference price will be adjusted toward a higher regular price?

The literature on assimilation effects shows that judgments about an ambiguous target stimulus (internal
reference price) are more likely to assimilated to a contextual cue when the cue acts as an interpretive frame, rather than a comparison standard (Bless and Schwarz, 2010). When a contextual cue is used as an interpretive frame, it suggests values for missing information about the target, giving rise to assimilation effects. When a contextual cue is used as a comparison standard, it anchors the scale to evaluate the target, giving rise to contrast effects (Kan et al., 2014). Stapel et al. (1998), for example, investigated the effects of different types of priming on evaluations of restaurants and clothing stores. Their results showed that “when the context elicits an abstract product attribute, this information is used as an interpretation frame and product evaluations may be assimilated toward the activated information. On the other hand, when concrete and comparable exemplar information is activated, this information can be used as a comparison standard and target product evaluations are likely to be contrasted with the activated information” (p. 2). In short, contextual information is used to construct mental representations of the target, which results in assimilation effects. Accordingly, changes can be made to strengthen the contextual cue’s assimilation effect by offering the cue as an interpretive frame in quantity discount advertising.

A quantity discount with multiple price breaks (e.g., “2 for 30% off; 3 for 40% off”) can be considered an interpretive frame. This is because through repeatedly illustrating the relationship between purchase quantities and discounted prices, the contextual cue activates associations that can be used to interpret the meaning of a subsequently presented price (Bless and Schwarz, 2010). Consequently, consumers may note that different discounts are given for different purchase quantities because of variation in the profit margin earned from small or large order sizes (Khouja, 1995). This will influence the consumers’ impression of the reasonableness of the regular price. For example, if one gets 40% off by buying 3 units and 30% off by buying 2 units, what would the discount or price for buying 1 unit be? The consumers might infer that the expected price for one product would be about 20% off (3→2→1 = 40%→30%→20%)—a lower discount level (i.e., higher expected price) than that which would be expected from a missed “2 for 30% off” quantity discount (as discussed earlier, the expected price for one item in a single price break situation is approximately 30% off). This higher expected price may lead to a shift in the consumers’ existing internal reference price toward the regular price, and a new, revised (higher) internal reference price will be formed. Manifestly, the multi-price break contextual information acts as an interpretive frame, which influences their interpretation of the internal reference price, leading to an assimilation effect that will help the regular price fall within the consumers’ acceptable price range when a quantity discount is missed. A number of studies have confirmed that the higher the internal reference price, the stronger the probability of purchase (e.g., Grewal et al., 1998; Wu et al., 2012. We therefore hypothesize the following:

**H1:** Consumers missing out on the quantity discount will show greater willingness to purchase one item at the regular price under a multi-price break discount scheme than a one-price break discount scheme.

**H2:** The effect of the discount scheme on purchase likelihood is mediated by the internal reference price (i.e., a consumer’s expected price) when a quantity discount is missed.

**EXPERIMENT 1**

The objective of Experiment 1 is to explore the basic pattern of consumer purchase of one product at the regular price after losing out on a quantity discount with two price breaks in comparison a single price break. To establish the actual consumption context we provided a selection of 20 different designer t-shirts for sale at a fictitious online clothing store (www.MyTees.com.tw), with one- and two-price break versions of the quantity discount scheme offered on alternating days, and measured the sales volume each day. A fictitious e-shop was used in order to control for the possible confounding effect of website reputation. Online apparel shopping was selected for several reasons (Huang and Yang, 2015): (i) quantity discounts are a commonly used promotional strategy among clothing retailers, and a single-unit price and multiple-unit price are easily comparable by consumers. More importantly, the policy of the retailer is to not allow the consumers to obtain the discount when less than the designated amount is purchased; (ii) the probability of not meeting the minimum purchase requirement and thus failing to obtain the quantity discount is high in this industry, because the styles, colors, or sizes of interest to the consumers are often out of stock; (iii) undergraduate students are real-life consumers who purchase their own clothes at such online stores; (iv) it is easier to control the experimental setting (e.g., stock situation) in an e-shop than it would be in a brick and mortar shop. We expect that consumers who fail to receive a quantity discount will be more likely to purchase one product item at the full price when the promotion has two price breaks than when it has a single price break.

**Method**

Participants were approached individually at several places on a university campus (cafeteria, bookstore, library, etc.). They were given a flysheet with an advertisement that stated that a new online t-shirt specialty shop is promoting designer t-shirts and anyone who is interested can receive a special offer from September 2 (Monday) to 29 (Sunday). There is no shipping charge for any size order. Over a period of 4 weeks, two forms of quantity discount advertisements were presented, alternating between one- and two-price break quantity discount schemes from day to day. In the one-price break condition, the quantity discount was described as “Sale! Regularly NT$329. Now 2 for 30% off!” (US $1 = NT$30); in the two-price break condition, the promotion was framed as “Sale! Regularly NT$329. Now 2 for 30% off and 3 for 40% off!” The regular price and sale price(s) in a quantity discount advertisement appeared in the same font.
size and were physically positioned in a vertical (columnar) format.

Unknown to participants, some styles, colors, or sizes were controlled, so there was only one or zero units, to ensure that they had a low chance of finding suitable choices to fulfill the retailer’s minimum purchase requirement to receive the quantity discount. We observed whether participants who could not obtain the quantity discount would still purchase one t-shirt at the full price (NT$329) for a one- versus two-price break promotion. At the end of the day, we calculated how many t-shirts were sold at the undiscounted price. In all, we obtained 14 measurements for the one-price break and 14 for the two-price break sales amounts. Finally, upon completion of the experiment, participants were informed and their assistance gratefully acknowledged in an e-mail about the study they had unknowingly participated in. In addition, they were later offered the benefit of the reduced price (NT$329 × 30% off = NT$99) if they had purchased a single item of the product at the full price.

RESULTS

The analysis of this study closely followed the methodology of Geier et al. (2006). We paired the actual sales amounts of single items with the regular price sold on corresponding days; that is, we compared the first Monday with the second Monday, the third Monday with the fourth Monday, and so on. We then computed the ratio of sales amount on each day of the week, generating fourteen ratios (i.e., two-price break sales amount divided by one-price break sales amount). If the discount scheme had no effect, the predicted ratio in a t-test would be 1.00. The mean ratio was 1.92, \( t(13) = 14.79, p < 0.001 \), and all 14 ratios were greater than 1.00 \( (p < 0.001, \text{ binomial}) \). The results were consistent with our expectations that participants in the two-price break condition would be more likely to purchase a single item at the regular price than those in the one-price break condition after missing out on the quantity discount (Figure 1). Therefore, H1 was supported. We obtained initial support for the expected pattern of one-price versus two-price break sales in a field setting.

Discussion

The results from Experiment 1 demonstrate that offering a quantity discount with multiple price breaks can encourage more purchases at the regular price compared than offering one with a single price break to consumers who have failed to obtain the lower promotional price. The rationale behind this is that multiple price breaks serve an interpretive function, resulting in assimilation. Although these findings are consistent with the assimilation explanation, we have yet to provide direct evidence that multiple price breaks cause consumers to shift their internal reference prices or that such processes mediate the effect of the discount scheme on purchase decisions. This mediation analysis is employed in Experiment 2.

In this field experiment, we used an advertisement with two price breaks (e.g., 2/3 for 30/40% off) and then examined consumer responses to the missed quantity discount. The results were as hypothesized: multiple price breaks lessened the negative impact of the quantity discount when the reduced price was missed. Two questions arise from the results: Does increasing the number of price breaks enhance the assimilation effect (e.g., offering a three-price break quantity discount such as “2/3/4 for 30/40/50% off”)? Or is it necessary to increase the levels of purchase quantities between the two price breaks (i.e. the interval size) to enhance the effect (e.g., offering a “2/5 for 30/40% off” instead of “2/3 for 30/40% off”)? We propose that increasing the number of price breaks while simultaneously magnifying the purchase quantity interval will intensify the size of the assimilation effect and thus raise the likelihood of purchase for one product at the regular price when a reduced price is missed.

Enhancing multi-price break effectiveness

The number of price breaks represents the amount of purchase quantity-sale price descriptive statements. More price breaks offer more detailed purchase quantity-sale price descriptive information to the consumer (e.g., a “2/3/4 for 30/40/50% off” or “2/5/8 for 30/40/50% off” quantity discount). This information makes the retailer’s pricing policy more systematic and transparent so that the consumer can make a more diagnostic interpretative framework from which to construct an internal reference price (Kan et al., 2014). Schwarz and Bless (2007) argued that the size of the
assimilation effect increases with the amount of contextual information added to the representation of the target. Therefore, including extra purchase quantity-sale price statements may lead to a greater assimilation effect. Thus, a three-price break promotion is likely to be more effective in increasing the purchase likelihood than a two-price break promotion in the case of a missed quantity discount. However, as we will explain in the succeeding texts, this effect also depends on the interval size.

The interval size is the discrepancy in the purchase quantity between two price breaks. It helps consumers understand how many units a specific discount is worth. For example, a “2/3/4 for 30/40/50% off” (small interval) quantity discount implies that buying one extra unit is worth a 10% discount, while a 2/5/8 for 30/40/50% off (large interval) quantity discount indicates that purchasing three extra units are worth a 10% discount (i.e., one extra unit is about 10 ÷ 3 = 3.33% off). Based on this information, consumers can surmise the retailer’s cost structure and normal profit margins, which in turn will affect their price estimate for a single product item when a quantity discount is missed. Specifically, a large interval will lead to a lower discount level expectation than a small interval (e.g., 3.33% off versus 10% off). In other words, the interval size influences the magnitude of the internal reference price adjustment. Past studies have confirmed that consumers form an internal reference price based on logically relevant facts (Lichtenstein et al., 1988).

As mentioned previously, a three-price break quantity discount is expected to amplify the degree of assimilation more than a two-price break promotion will. However, this effect is found when the interval size is large rather than small. When the interval size is small, consumers in both of the two- and three-price break discount schemes report a similar internal reference price and purchase likelihood. This is because consumers in either a “2/3 for 30/40% off” (two-price break) or “2/3/4 for 30/40/50% off” (three-price break) quantity discount may figure out that a 10% discount is earned from buying one extra unit; therefore, 20% off should be given when purchasing a single unit product (from 2 to 1 unit is 30–10% = 20%). In contrast, when the interval size is large, the internal reference price and purchase likelihood will vary for different multi-price break conditions. Although a “2/5 for 30/40% off” (two-price break with large interval) quantity discount may also lead to an adjustment of the internal reference price toward the advertised regular price, the change will not be as intense as for a 2/5/8 for 30/40/50% off (three-price break with large interval) promotion. This is because the additional price break for a larger, more extreme order quantity (8 for 50% off) not only gives a more systematic and transparent rule regarding the retailer’s pricing policies but also emphasizes that the percentage discount is only provided to someone who can buy a high volume (Allenby et al., 2004). Therefore, when a quantity discount is not available, a higher advertised regular price for a single product appears more reasonable and credible to the consumer. Researchers have shown that assimilation effects increase with the extremity of the included contextual information (Schwarz and Bless, 2007). This assimilation process will heighten the consumers’ internal reference price and purchase likelihood. Put differently, a three-price break quantity discount is more influential when the purchase quantity interval is large rather than small. Accordingly, we hypothesize the following:

H3: Consumers who fail to receive a quantity discount with a large interval size will have a greater desire to purchase the product at the regular price when the discount scheme has three- rather than two-price breaks. However, there will be no difference in purchase likelihood between the three- and two-price break discount schemes when the interval size is small.

**EXPERIMENT 2**

**Experimental design and stimuli**

The hypotheses were investigated using a 2 (discount scheme: two- versus three-price break) × 2 (interval size: small versus large) + 1 (one-price break) between-subject experimental design. The two-price break discount scheme was described as “X for 30% off; Y for 40% off,” and the three-price break was described as “X for 30% off; Y for 40% off; Z for 50% off” (the prices were positioned in a vertical format as indicated in the succeeding texts). Three-price break was selected for experimental manipulation because this form of quantity discount is frequently utilized by clothing stores, followed by the two-price break. Four- or five-price break quantity discounts are rarely used by apparel shops; therefore, they were not considered in our experiment. This design mirrored a real-world setting.

The interval size manipulation represents the difference in quantity between the two price breaks, in which consumers see a one-unit quantity difference between the two price breaks in the small interval condition (i.e., X = 2, Y = 3, and Z = 4) or a three-unit quantity difference in the large interval condition (i.e., X = 2, Y = 5, and Z = 8). In all cases the product’s regular price was included (NT$499 per shirt). Only one suitable shirt was found (because certain styles, colors, or sizes of interest were sold out), meaning the consumer did not qualify for the quantity discounts. For example, participants in the three-price break and large interval condition were asked to imagine the following scenario. This role-playing approach has been successfully used in a number of quantity discount studies (e.g., Manning and Sprott, 2007; Yoon and Vargas, 2010; Huang and Yang, 2015).

You are in a clothing store. The store is offering a seasonal promotion that includes various stylish shirts. These shirts are regularly priced at NT$499 and are now offered at 2 for 30% off, 5 for 40% off, and 8 for 50% off.

After looking around the store you find one nice shirt, but because the discount is not available when purchasing less...
than the quantity specified, you try to find other suitable shirts. After half an hour of searching and trying on, you still cannot find enough suitable choices to meet the store’s minimum purchase requirement to receive the discount, because the styles, colors, or sizes you are interested in are sold out.

**Sample and procedures**

Consumers at a large-sized shopping center in Taiwan were recruited as volunteers. Advertisements were posted on bulletin boards at each entrance. Volunteers were offered a small gift (about NT$100 in value) for participating. The surveys were run on a Thursday, Friday, and Saturday, so that both weekday and weekend consumers could be polled. Each respondent was given a survey kit consisting of a questionnaire and a randomly chosen scenario. The instructions asked participants to imagine themselves as the consumer in the scenario.

A total of 200 individuals took part in the survey. Of these, 21 responses were eliminated from the analysis because of incomplete data. The 179 remaining responses were divided into five treatment groups, ranging in size from 35 to 37. The average age of participants was 36.9 years (SD = 8.7), and 58.7% were female. Of these participants, 67% reported that they had missed out on a quantity discount at a clothing store in a way that was very similar to that described in the scenarios.

**Measures**

After reading the scenario, participants were asked to indicate the likelihood that they would buy the undiscounted shirt on a 7-point scale ranging from 1 = very unlikely to 7 = very likely (Huang and Yang, 2015). Next, to collect information on the participant’s internal reference price, an open-ended question was used: “What price do you think is reasonable for this shirt? $____” (Wu et al., 2012).

In addition, responses about price perception (“The price of NT$499 that the clothing store is asking for the shirt is? 1 = low/acceptable and 7 = high/unacceptable”, r = 0.78, borrowed from Koukova et al., 2012), prior experience with missing quantity discounts at a clothing store (“How often have you found yourself missing quantity discounts at a clothing store? 1 = rarely and 7 = frequently), and average amount spent on clothing purchases (“How much do you generally spend on clothes monthly?”) were collected as possible covariates. At the end of the survey, participants were asked to complete some demographic information. As these covariates and demographic variables had no significant effect, they were excluded from further analysis.

**RESULTS**

**Manipulation checks**

To assess the discount scheme manipulation, participants were asked to indicate the number of different prices the clothing store offered for a discount when purchasing different quantities. The t-test results ($M_{two-price break} = 2.03$ versus $M_{three-price break} = 2.94$, $t(140) = -18.85, p < 0.001$) showed that the manipulation was perceived as intended. To assess the interval size manipulation, participants were asked to indicate the perceived quantity difference between the two price breaks: “I think the quantity difference from one discount to the next discount is” 1 = low/easy to approach; 7 = high/difficult to approach ($r = 0.91$). The t-test results ($M_{small interval} = 3.92$, $M_{large interval} = 5.56$, $t(140) = -7.21, p < 0.001$) revealed that the manipulation was effective.

**Hypotheses testing**

A two-way analysis of variance (ANOVA) on purchase likelihood with discount scheme and interval size as independent variables was conducted to test the hypotheses. As expected, the ANOVA results showed a significant main effect on the purchase likelihood, $F(2, 176) = 6.20, p < 0.01$. The Scheffé test results revealed significant differences between the one-price versus two-price break scheme ($M_{one-price break} = 3.54$ versus $M_{two-price break} = 4.32, p < 0.05$) and one-price versus three-price break scheme ($M_{one-price break} = 3.54$ versus $M_{three-price break} = 4.61, p < 0.01$), such that participants in both the two-price and three-price break discount schemes scored higher levels of likelihood to purchase one product at the regular price than those in the one-price break condition. Therefore, H1 was supported.

In accordance with H3, there was a significant two-way interaction between discount scheme and interval size for purchase likelihood, $F(1, 138) = 4.12, p < 0.05$. None of the other findings were significant. The plot of the interaction for the likelihood of purchase (Figure 2) showed that under conditions with a large purchase quantity interval, participants in the three-price break group (i.e., 2/3/4 for 30/40/50% off) were more willing to buy one undiscounted product item than those in the two-price break group (i.e., 2/5 for 30/40% off) ($M_{two-price break} = 4.25$ versus $M_{three-price break} = 5.03, t(69) = -2.43, p < 0.05$); whereas under conditions with a small purchase quantity interval, participants in the three-price (i.e., 2/3/4 for 30/40/50% off) and two-price break groups (i.e., 2/3 for 30/40% off) did not experience significantly different levels of purchase

![Figure 2. Interaction between the discount scheme and interval size (Experiment 2).](https://example.com/figure2.png)
likelihood ($M_{\text{two-price break}} = 4.40$ versus $M_{\text{three-price break}} = 4.19$; $t(69) = 0.57, p = 0.57$). Therefore, H3 was supported.

To test whether the internal reference price mediates purchase likelihood, we conducted a moderated mediation analysis with the discount scheme as the independent variable, interval size as the moderator (0 = small interval, 1 = large interval), internal reference price as the mediator, and purchase likelihood as the dependent variable (SPSS Macro PROCESS, Model 7, Hayes, 2013). We used a bootstrapping technique to generate a 95% confidence interval (CI) around the indirect effect of internal reference price, in which successful mediation occurs if the CI does not contain zero (Preacher et al., 2007). A 5000 bootstrap resample showed that when internal reference price was examined as the mediating factor, the 95% CI of $-0.5575$ to $-0.0548$ was obtained. Because zero was not included in the lower and upper bounds of this CI, the internal reference price was found to mediate the effect on purchase likelihood. Further exploration of this conditional indirect effect revealed that among the large purchase quantity interval participants, the mediating effect of internal reference price was significant, with a 95 per cent CI for the indirect effect excluding zero ($-0.4292$, $-0.0596$). In contrast, among the small purchase quantity interval participants, mediation was not established, with a 95 per cent CI for the indirect effect including zero ($-0.0991$, $0.2529$). Thus, H2 was supported. We conclude that relative to those in the small interval condition, participants in the large interval condition were strongly influenced by the number of price breaks, which in turn encouraged a higher internal reference price. This increase in internal reference price translated into a higher likelihood of purchase of one item at the advertised regular price when a quantity discount was missed.

**CONCLUSIONS**

This paper explores how quantity discounts with one versus multiple price breaks influence the consumer’s internal reference price and purchase decisions in the wake of a missed quantity discount. Two field experiments are conducted. The results of Experiment 1 demonstrate that quantity discounts with two price breaks (e.g., “Regularly $25. Now 2 for 30% off and 3 for 40% off”) result in a higher likelihood of purchasing a product at the regular price than quantity discounts with a single price break (e.g., “Regularly $25. Now 2 for 30% off”). This finding is important as it shows that the number of price breaks in a quantity discount serves as a contextual cue that influences how consumers evaluate an advertised regular price ($25) and use it to adjust their internal reference price upward or downward when a reduced price is missed. Specifically, when the contextual information includes multiple price breaks, it is viewed as an interpretative frame, suggesting value for missing information about the internal reference price and thus giving rise to assimilation. In contrast, when the contextual information contains only one price break, it is viewed as a comparison standard, with which to construct a scale that is used to judge the internal reference price and thus giving rise to contrast. Our results add to current literature by showing that people can simultaneously consider multiple reference points (price breaks) in their price judgments after losing out on a quantity discount. Further, multiple reference points will reduce the impact of the missed discount as the reference point.

In Study 2, we extended the number of price breaks from two to three. Results again corroborated that consumers who fail to receive a quantity discount are more willing to buy one product at the regular price when the promotion has multiple (either two or three) price break points rather than one. Moreover, the data revealed that with three price breaks consumers reported higher levels of purchase likelihood than with two price breaks when the discrepancy in purchase quantity between the two price breaks (i.e., interval size) is large (e.g., 2/5/8 for 30/40/50% off vs. 2/5 for 30/40% off). However, when the interval size is small, there is no difference between three and two price breaks (e.g., “2/3/4 for 30/40/50% off” versus “2/3 for 30/40% off”). These findings contribute to our understanding of assimilation effects: the size of the assimilation effect increases with the amount and extremity of contextual information included in the representation of the target (Bless and Schwarz, 2010).

Finally, the statistical results demonstrate that the effect of the discount scheme on purchase likelihood is mediated by the consumers’ internal reference price. That is, the retailer’s quantity discount advertisement presented in the purchase environment offers contextual cues that lead consumers to infer the seller’s cost structure and adjust their internal reference price accordingly. This revised internal reference price is used as a reference against which they evaluate the actual offering of the product, which in turn alters purchase probability. Our results are consistent with previous findings in reference price research that consumers do not perceive retailer-supplied reference prices in isolation; perceptions of retailer-supplied reference prices also depend on the context in which perception occurs (Monroe, 1990; Lichtenstein et al., 1991; Rondan-Cataluha and Martin-Ruiz, 2011; Yoon and Vargas, 2011; Kan et al., 2014; Huang and Yang, 2015).

We can summarize our contributions to the current marketing literature as follows: First, this research examines and enhances our understanding of consumers’ actual purchase behavior when they lose out on a quantity discount, an important and under-investigated topic. Second, our results indicate that different quantity discount schemes (one versus multiple price breaks) influence consumers’ perceptions and behaviors in cases when they are unable to avail themselves of the promotional price. Third, we propose a novel strategy for weakening the negative impact of a missed quantity discount on consumers’ purchase decisions, namely, to offer quantity discounts with two-price or three-price breaks instead of one price break. Fourth, we demonstrate that there is an interaction between the number of price breaks and the interval size. Specifically, increasing the number of price breaks will exert a stronger influence on the internal reference price and purchase likelihood when the interval size is large but not when it is small. Finally, the evidence presented shows that the internal reference price
mediates the effect of the discount scheme on purchase likelihood.

Managerial implications
Several implications for retailers can be drawn from the results. First, our findings indicate that consumers use the discount schemes as contextual cues for evaluating the advertised regular price when a quantity discount is missed, meaning that the number of price breaks as well as the interval size warrant the retailers’ careful consideration. The pattern of findings shows that it is easier for consumers to accept quantity discounts with multi-price breaks rather than one-price break after having to forgo a lower promotional price. Moreover, when the interval size is larger, increasing the number of price breaks will result in higher purchase likelihood as opposed to when the interval is small. Although Gu and Yang (2010) indicated that sellers do not consider quantity-discount effects when setting prices, our results suggest that properly determining how many price breaks and how their corresponding prices are offered, as well as the order quantity for each price break, will help to attract consumers even if they do not buy enough to qualify for the price reduction. Briefly, in the context of a missed quantity discount with multiple price breaks, the interval size may be viewed as an attempt by the retailer to communicate to the consumer where to locate their internal reference price (i.e., at what dollar amount), while the number of price breaks associated with the purchase quantity-sale price information represents an attempt to communicate to consumers why they should locate their internal reference price at that particular advertised regular price. By manipulating the number of price breaks and interval size, retailers can increase consumers’ internal reference price and thus purchase likelihood.

It is important to note that one of the main reason retailers use quantity discounts is to increase sales volume and profit. Retailers who become familiar with the results of our study may also want to know whether quantity discounts with multiple price breaks will have a more positive effect on sales volume and profit than those with one price break. Although this research was not designed to answer this question, Khouja’s (1995) study on the newsboy problem in the apparel industry did reveal that the multiple price-break quantity discount scheme provides higher expected profit than a single price-break quantity discount. Hence, it is beneficial to use multiple price breaks when offering quantity discounts as this strengthens the positive effect and minimizes the negative effect of quantity discounts.

It should also be noted that losing out on a quantity discount is not a special case. Nearly 70% of our participants had such an experience (refer to data in Experiment 2). Although the existing research encourages the wide-spread use of quantity discounts, the retailer should be aware of the intense negative influences on consumer emotion and behavior when the reduced price is missed. To diminish the harmful impact of missing out on quantity discounts, we offer several suggestions to retailers. Not only the number of price breaks but also the interval size can be strategically managed. Our research results thus shed light on the best way to express a quantity discount.

Limitations and directions for further research
There are numerous opportunities for future research in this area, some of which arise from the limitations of this study. For example, across our experiments, only a single product category (clothes) is involved. Future research including other types of merchandise is needed to generalize our findings. Second, although the number of price breaks and interval size were selected based on the actual practice of clothing retailers (e.g., UNIQLO and ZARA), it is important in the future to replicate the findings with other values. For example, what would be the difference when the purchase quantity interval between two price breaks is regular versus irregular (e.g., 2/5/8 for 30/40/50% off versus “2/5/10 for 30/40/50% off”)? What would be the impact when the size of the discount for each price break is low versus high? Finally, there are many ways quantity discounts can be framed, but we focused on the percentage-off format (e.g., 2 for 30% off) commonly employed in the real world (DelVecchio et al., 2007). Future research could determine the influence of other forms of quantity discount framing such as the total-expense (e.g., 2 for $35) and dollar-off formats (e.g., 2 for $15 off). Previous studies have shown that individuals’ internal reference price and behavioral reaction are affected by changes in how a price promotion is framed (DelVecchio et al., 2007; Bambauer-Sachse and Dupuy, 2012).

ACKNOWLEDGEMENT
This research was supported by a grant from the National Science Council (NSC99-2410-H-005-035-MY2), Taiwan.

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So hard to say goodbye? An investigation into the symbolic aspects of unintended disposition practices

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ABSTRACT

Even though disposition is present in the consumer behavior research agenda, most of the studies focus mainly on intentional movements of products leaving the home. The present article describes a less conscious and co- incidental journey of products into a liminal zone between use and disposal inside homes. A qualitative field study, based on the itinerary method, was undertaken with a group of 26 affluent women in Brazil. The findings show that consumers maintain purgatories – “forgotten” repositories of products no longer in use – as an in-home disposition practice. The aspects and functioning of purgatory are also detailed, through a typology of purgatories and a discussion of specific strategies to deal with cluttering as a consequence of product accumulation inside homes. Finally, purgatories emerge as a contemporary consumer solution to deal not with individual products but with product collectivities’ disposition. Copyright © 2016 John Wiley & Sons, Ltd.

INTRODUCTION

Interviewer: When do you throw away a product?
Interviewed: When it is finished.
Interviewer: And when does it fit?
Interviewed: When it finishes!!!!!!
(Interview data, Gabriela, 22 years old, single, journalist)

I hardly ever wear this lipstick. I always throw things away when they reach their expiration date. This is here because I had not seen it. Now, I’ll take this opportunity to have a look and throw away those items that have already expired (laughter.) Because, I have various lipsticks but I don’t wear lipstick. (…) There is this eyeshadow, I have this one too. It’s almost empty, but I don’t wear it anymore. Look at this too, that I also…Oh my gosh! I’ve never even used this one! (Interview data, Renata, 25 years old, married, editor)

In the first dialogue and in common sense expressed using “pat” phrases, disposition is described as the conscious and banal act of getting rid of finished products that have lost their utility. Further investigation of piling up long forgotten products lying at the bottom of drawers and wardrobes, however, reveals a complex interplay of less conscious practices during the disposition process. As suggested by the second vignette, sometimes maintaining the product may give an ambiguous status in terms of keeping and disposal.

Disposition is defined as the physical and symbolic process through which consumers disengage from the products, relinquishing control and benefits that ownership of the object might entail (Young and Wallendorf, 1989; Roster, 2001). Recent studies have dedicated more attention to the purposeful process of disposition (e.g., Price et al., 2000; Lastovicka and Fernandez, 2005; Cheetham, 2009; Denegri-Knott and Molesworth, 2009; Shelton and Peters, 2006; Cherrier, 2009). Researchers have sought to clarify the meanings of and motivations for disposition (Young, 1991; Ozanne, 1992; Price et al., 2000; Shelton and Peters, 2006; Cherrier and Murray, 2007; Cherrier, 2009; Ballantine and Creery, 2010) and also describe efforts made by consumers to keep or erase meanings linked to products (McCracken, 1988; Lastovicka and Fernandez, 2005; Cheetham, 2009).

Even though disposition is present in the consumer behavior research agenda, most of the studies focus mainly on intentional movements of products leaving the home. It is only recently that authors have sought to understand this as the process of maintaining things inside the home (Cappellini, 2009; Mayercot, 2009). A topic that has yet to receive much attention relates to consumers less conscious or purposeful processes when dealing with consumption of everyday products, incorporating a special emphasis on how disposition takes place within homes, through products that are neglected or forgotten.

The present study investigates reflective and non-reflective aspects of disposition of a regularly consumed product category. More specifically, our research interest focuses on dispositions dynamics occurring inside the home. Our main interest is in settings with abundant consumption in which the volume of material goods entering a household is far greater than at any time in the past. A qualitative field study therefore was undertaken with a group of affluent consumers from Rio de Janeiro, Brazil, and their cosmetics consumption. The study used the itinerary method as defined by Béji-Bécheur and Campos, 2008 and further by Desjeux et al., 2014. This method considers all aspects of product flow from acquisition to disposition and is tracked through in-depth interviews and observation inside our informant’s houses. Our findings show that consumers maintain products no longer in use in a kind of consumption limbo, or
ambiguous stage between use and disposal, what we conceptualize as “purgatories.” We thus discuss purgatories, in the current reality of abundant consumption, as practices that reorganize and hierarchize a crowded system of objects, enabling the consumer to establish a certain order in a situation of excessive consumption.

In the Brazilian environment, affluent consumers have full access to cosmetics in a similar spectrum to those in both US and European marketplaces. Our assumption is that cosmetics consumption in Brazil is particularly interesting for studying disposition of consumable products in an abundant consumption context, where consumers are stimulated and served by many concurrent offers as well as have access to a great variety of products on their daily lives. Cosmetics consumption in Brazil is comparable with that of other large-market countries. The country is the third largest market for beauty products in the world after the USA and China (Storf et al., 2015). The Brazilian market includes leading firms and multinational brands (Rethinking beauty: exploring new growth models, 2013). According to the McKinsey report, Brazilians spend $230 per person per year on beauty and personal care products. Proportionally to gross domestic product, this is more than Americans spend.

In the ensuing article, we first summarize different studies about disposition. Second, we present the concept of purgatories. Third, we analyze the mechanisms underpinning the creation of purgatories, as well as the consumer’s logic justifying their existence. In the final section, we discuss the application of the concept to several important areas of consumer research.

LITERATURE REVIEW

In their seminal article, Jacoby et al. (1977) define disposition in broad terms: What consumers do once the product loses its usefulness. They point out alternative ways of disposing, such as throwing away, selling, renting, lending, donating, or even keeping unused products. Refining this seminal discussion, Albinsson and Perera (2009) suggest “sharing” and “recycling” as additional modes of disposition.

Young and Wallendorf (1989) portray disposition as a process, more than a discrete event. For the authors, it should be considered a physical and emotional process through which consumers disengage physically from the product and the meanings related to it, as a process of detachment from self. Roster (2001) defines disposal as a voluntary act through which a person abdicates responsibility and control of the object, relinquishing present or future capacity and benefits that the ownership of the object might entail. Nonetheless, the author also proposes the concept of dispossessment as “a broader psychological process by means of which the individual feels physically and emotionally detached and separate from possessions under his control” (Roster, 2001: 429).

More than the functional or concrete aspects of products that motivate disposal, field researchers have devoted their efforts to understanding the symbolic dimension of disposition. Recent studies present disposition as a means of facilitating or validating changes and broadening and solidifying self-definition (Lastovicka and Fernandez, 2005), new social roles and identities (Young, 1991; Ozanne, 1992; Shelton and Peters, 2006; Cherrier and Murray, 2007), or lifestyles (Cherrier, 2009; Ballantine and Creery, 2010).

Disposition practices can also reflect social connections materialized by objects (McCracken, 1988), creating or rupturing links with other individuals. Lastovicka and Fernandez (2005) also showed that identity sharing between salesperson and buyer makes special products sales possible. Cappellini (2009) depicts how consuming food leftovers sustains and perpetuates familial bonds and is usually associated with the mother’s role within the family. Price et al. (2000) show the complexity of disposal for the elderly and their special possessions. Through donation of those items, they seek to establish a retainer of their personal inheritance, influence the future biography of those involved and the lifespan of special objects, as a means of guaranteeing a “good home” for inalienable goods, transfer cultural capital, and assure that contributions or labor do not die with their bodies, thus attaining symbolic immortality.

Given the symbolic content of possessions, various studies have described how meanings circulate and are preserved or transferred through disposition practices. According to McCracken (1988), divestment rituals may have two distinct purposes. They may assure the new owner “a clean slate,” dissociating prior characteristics and thus avoiding any risk of “contagion.” Divestment rituals may also allow the original object owner to create distance and thus extract himself or herself from meanings associated with the product. This in turn eliminates any feeling of loss or contamination at the moment of disposal. Lastovicka and Fernandez (2005), for instance, found practices such as leaving the object for a period in a “transition location” – out of sight and far from use – and getting it cleaned to erase the marks of the past and the “characteristics” of the former owner. Cheetham (2009) also presents auctions as a process that facilitates commoditization, erasing the personal meanings of objects.

Other studies, however, seek to discover means of symbolic manipulation in the disposition process, with an aim of perpetuating meanings contained in the products. Lastovicka and Fernandez (2005) describe initiatives such as taking photos to keep a memento. Another ritual analyzed by the authors is the act of telling stories to the buyers about product biography, so that the meanings leave their private aspect behind and cross the frontier to the public. Price et al. (2000) present various tactics used by consumers to maintain meanings attached to special objects: using cultural norms or family traditions as a basis for choosing who should inherit the possession, seeking people who identify with or care about the family tradition or who constitute close relations, talking about the meaning of the objects, and taking advantage of ritualistic situations, such as weddings, childbirth, birthdays, or Christmas for the donation.

During the last 30 years, the literature relating to disposition has advanced in the sense of defining its concepts and the factors of influence. Various researchers have sought to clarify the meanings and motivations for the disposition process. They have primarily investigated and described consumer’s efforts to keep or erase the meanings linked to products through disposition. Most of the studies focus...
mainly on intentional movements of products leaving the home. A topic that has yet to receive attention relates to contexts with an abundant and regularly consumed product categories and disposition process that takes place inside the home, through what is neglected or forgotten. Hence, the aim of the present study is to investigate consumers’ less deliberate and purposeful processes of disposition when dealing with an abundant and daily consumption product category. Our interest is to understand how consumers deal with disposition, considering not only a specific product disposition but also a system or a constellation of products integrated within their normal routines.

METHODOLOGY

The research adopted the itinerary method, a qualitative approach initially used in the field of anthropology (Desjeux, 2000; Béji-Bécheur and Campos, 2008; Desjeux et al., 2014). The itinerary method investigates consumption as a systemic and dynamic flow, observing the trajectory of objects during the course of seven analytical steps: arousal of the need, transportation, purchase, storage, preparation for consumption, consumption, and disposal. Additionally, the method investigates the organization of space, gestures, objects, and other material evidence to confront the interviewees’ discourse. Using this approach may lead to the uncovering of social logics, constraints, and dynamics.

We interviewed 26 women, aged between 17 and 55 years, who were affluent residents of Rio de Janeiro, Brazil, regarding their consumption of cosmetics. To meet the method protocols, the interview guide was organized into three main steps, each with specific goals. Firstly, the researcher invited the informants to describe their daily consumption habits. This procedure was also complemented by encouraging the interviewees to tell their life stories (Atkinson, 1998) related to the use of beauty products. This part was held in the more public area of the household, normally the living room, and lasted around 30 min. This first recollection of data focused on the mapping of household routines associated with beauty product consumption. The second part comprised a visit of the home guided by the interviewees who were asked to present what they had just described. Researchers would ask about products mentioned during the first part of the interview using more probing questions such as “you mentioned an anti-aging cream that is in your bathroom. Could you show it to me?” This probing initiative allowed researchers to find inconsistencies between practices and discourses and reach a deeper level of access to consumption realities. This contrast also allowed access to more unconscious levels of the consumption process, in which practices and observed objects did not always match the descriptions. The third part of the interview involved describing the product’s itinerary (Desjeux, 2000) in the spaces where products were actually being used, stocked, and discarded in order to collect more details of the consumption process. During this part, it was not unusual for interviewees to come across a certain product that they just realized was too old or in bad condition and then decided that it should be discarded. Within the context of the interview, the interviewer often served as a catalyst for the final decision to dispose of a product previously left in the consumer’s purgatory. This interaction presented an opportunity to unveil both the non-reflective process and normative expectations about disposition.

The investigation of beauty consumption with the itinerary method generates a challenge when it comes to observing intimate spaces of the household. How to encourage consumers to expose their hidden and private aspects of consumption? To deal with this, the research implemented several strategies. The convenience sample was formed by consumers that were second-level acquaintances. Therefore, they were close enough to be introduced by a mutual friend, but sufficiently distant to avoid the bias of analyzing an extremely familiar group. Secondly, the interviewees were informed beforehand that researchers would need to visit the house to observe consumption products and perhaps take photos. Nevertheless, researchers warned interviewees that all photos would only be taken of products and spaces and never of people. The interview was conceived to gradually build interviewee’s confidence in the process.

The interviews lasted an average of 100 min, amounting to a total of approximately 60 h of recorded conversations. All interviews were recorded, transcribed, and analyzed to detect deeper meanings. The analysis was performed with the support of the ATLAS.ti software. The analytical process consisted first of reading the whole text through once. We tried to capture the overall meanings and connections between the past, present, and future in informants’ stories and create a sense of the entire text regarding meanings associated with consumption and disposition. Analytical coding, in a complementary way, makes it possible to discover, refine, and develop concepts, themes, and events, which can be codified and inter-related (by confronting interviewees’ narratives). This comparison makes it possible to detect subtle differences in the way concepts are presented or how different informants attach diverse meanings to disposition practices. Some of these codes were suggested by the literature on disposition and the itinerary method, while others were created during the interview analysis process. The number of interviews undertaken (26) was determined by the saturation process (Bauer and Aarts, 2000). Table 1 provides profiles of the interviewees for the study.

FINDINGS

Disposition turned out to be a rather tricky research theme. Firstly, in the initial interview stage, disposal appears in the discourses as a logical, rational, banal, and almost automatic act of discarding finished products. This perception is revealed in “ready-made” sentences like “I throw things away when they are completely used up. I use them until they finish.” (Isadora, 21 years old, student, single) and even in the
Table 1. Research participants

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Marital status</th>
<th>Age (years)</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nadir</td>
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<td>17</td>
<td>Student</td>
</tr>
<tr>
<td>Ana</td>
<td>Single</td>
<td>20</td>
<td>Student</td>
</tr>
<tr>
<td>Isadora</td>
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<td>21</td>
<td>Student</td>
</tr>
<tr>
<td>Fernanda</td>
<td>Married</td>
<td>22</td>
<td>Student</td>
</tr>
<tr>
<td>Gabriela</td>
<td>Married</td>
<td>32</td>
<td>Business manager</td>
</tr>
<tr>
<td>Paula</td>
<td>Married</td>
<td>23</td>
<td>Student</td>
</tr>
<tr>
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<td>Married</td>
<td>25</td>
<td>Editor</td>
</tr>
<tr>
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<td>25</td>
<td>Engineer</td>
</tr>
<tr>
<td>Denise</td>
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<td>Marta</td>
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<td>32</td>
<td>Business manager</td>
</tr>
<tr>
<td>Tatiana</td>
<td>Single</td>
<td>32</td>
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<tr>
<td>Angela</td>
<td>Married</td>
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<td>Single</td>
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<td>Architect</td>
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<td>39</td>
<td>Writer</td>
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<td>Rosana</td>
<td>Married</td>
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<td>Archivist</td>
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<tr>
<td>Bárbara</td>
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<td>Joana</td>
<td>Married</td>
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<td>Therapist</td>
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<tr>
<td>Yoná</td>
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<td>Technology manager</td>
</tr>
</tbody>
</table>

surprise shown at the questions asked about the subject. So, taking the initial discourse of interviewees, disposition could be described as a rational, objective process, where purchase, usage, and disposal follow each other in a linear fashion in the course of a cycle in which the depletion of the previous product triggers the purchase of a new item.

However, this conception of an ideal disposal – automatic, without excesses or interruptions – described in the interviewees’ initial accounts seems to contemplate merely a part of the beauty product disposal practices revealed by the interviews and observations.

The observation of spaces such as shower boxes and cupboards, bedrooms, and bathrooms revealed that disposition could also follow a more complex dynamic that was not always consciously perceived by the consumers even though cloaked in rationalization discourses. We are referring here to what happens to products that are not fully used as well as packaging of finalized products that are not yet discarded. Observations and probing questions showed that the trash can is only one of the possible disposition routes, as Jacoby et al. (1977) claim. Alternative practices involve giving the products to other family members, donations, or even keeping the items, forming considerable accumulations of long forgotten products that now lie at the bottom of drawers and wardrobes. These accumulated products appeared to be in a liminal space between use and disposition and, for several reasons, would not be moved to either of these extremes. These products were stuck in the middle.

**Purgatories: an unintended disposition practice**

The behavior of interviewees indicates that throwing cosmetics away is a difficult task because, besides their functional utility, some products end up acquiring symbolic and emotional meanings for consumers (Young and Wallendorf, 1989; Roster, 2001). Hence, we observe a consumption practice that creates a liminal stage in the consumption itinerary, somewhere between use and disposal. This stage originates in the combination of (1) erratic, infrequent use – products not incorporated into regular conscious routines – and (2) an important symbolic charge associated with products and consumption, sustaining their meaning and preventing their disposal.

The appearance of this liminal stage may suggest an unintended, non-reflective disposition initiative, as several products in this condition never seem to find their use after joining this space. We call this liminal space purgatory in an attempt to conceptualize a group of disposition practices that seems to be the result of decisions that are not taken consciously.

In popular culture, not the same as the Roman Catholic concept, purgatory is a physical place where “souls” stay temporarily until their final destination is decided – heaven or hell. In this research, purgatories are those places and practices where products that are not being used are kept and maintained in a kind of consumption limbo, or liminal stage between use and disposal. They are different from an ordinary stock of products because the items stored in purgatories will most probably not join the set of products in use – as a kind of death. Purgatories receive products with little chance of being used, but whose ultimate fate has not been decided.

Thus, the name purgatory suggests a liminal and undefined nature or state, which may lead either to consumption or final disposal. Maycroft (2009) reminds us that marginal categories, typically less important and not regularly consumed, are usually stored in marginal places such as attics, basements, and outbuildings, eventually to be used, sold, or given away. This does not happen in the case of purgatories, which are found in privileged intimate spaces such as bathroom cupboards, just a couple of drawers away from the products in use. Thus, these products that are maintained without effective use in the life and intimacy of consumers seem to still fulfill symbolic roles. This physical proximity to products in use, in intimate spaces of interviewees’ homes, also highlights a tension related to the limits of “rational acquisition” – what and how much to buy – and “rational disposition” – what should be maintained and discarded.

**Why purgatories exist?**

The accumulation of unused and expired products was a surprise for some of our informants, revealing the non-reflective side of this practice. In several interviews, we witnessed consumers’ re-encounters with this universe of forgotten items at the moment when they realized disposal, as a consequence of expiration, is not their most common practice. In this sense, the interview, as it was constructed, contrasting description and observation, constituted a useful tool for exposing the inertial and unintended side of the consumption process. That is, instead of rational choices to maintain or discard, we could access less conscious processes to keep products, even without clear intention to use. At this moment, we
observed consumers handling their surprise with their own products and the explanations and rationalizations that resulted from this confrontation.

We aimed at obtaining a deeper understanding of the origin of purgatories, whether they were consciously perceived by interviewees or not. Our analyses identified purgatories as a symptom of consumers’ competence and moment in the life cycle. The accumulation of forgotten products was particularly pervasive among younger consumers, while older consumers’ product management seemed somewhat more efficient. The contrast between different age group practices reveals that the accumulation of unused products is a life cycle symptom.

The young girls’ products, especially adolescents, are often obtained from the mother, who is the decision-maker for product and family gift purchases. Daughters also receive products that their mothers no longer want. Additionally, as relatives do not always get daughters’ preferences right, the rejected products end up being discarded in stocks of products that are not being used. The cleaning of daughters’ unused product stocks was observed as being their mothers’ responsibility, denoting the position of the young girl as simply a user, that is, someone who consumes what is put there by the mother without having to manage these resources.

In young adults’ homes, the greater proliferation of non-used products drew our attention. It reveals changes in the context of these women’s lives that affect their consumption itinerary: career beginning, financial autonomy, and building more formal relationships leading to marriage. Through the intense experimentation of new products to support new social roles and the quest for autonomy in relation to maternal and family influence, young adults wish to discover which cosmetics and beauty practices are best for them. Despite their wish to put beauty care into practice, this group faces difficulties when trying to adopt regular habits. The products stranded in cupboards and on shelves reveal just how hard it is to deal with this universe. The women who find it more difficult to discard products belong to this group. Arguments such as “I may need it one day” or “I may want to use it someday” justify keeping products without apparent utility, revealing a certain insecurity on the part of these women in relation to consumption. Perhaps the difficulty with disposal resides in idealization of a routine or a feeling of shame/guilt about gestures or actions that should be performed. In their minds, they explain the product will be used “when I have discipline,” “when I remember,” and “if I don’t forget.” This distance between consumption in daily practice and an ideal leads to the maintenance of products in large stocks waiting for the right time to be used. These are products with an apparent low real functionality and high symbolic meaning, as they act as an instrument to apprehend an idealized lifestyle. Figure 1 illustrates purgatories of those younger consumers.

In contrast, in the group of older and more experienced women, we found a more systematized consumption, in which disposal follows more objective criteria and the unused product stock is minimized or disbanded. As they need to organize not only their own consumption but also that of the entire family, these women develop a better knowledge of the beauty products under their supervision. Even in the case of consumers of this older group who accumulated many products, the stocks were more organized and categorized. Interviewees often explained the logic underlying the various groups of products and timing of use. Figure 2 illustrates older and more experienced organization of beauty products.
In sum, the analysis of disposition as an integral part of the consumption process reveals its dimension as a symptom of consumers’ expertise, providing us with information to differentiate profiles and competencies as a result of their moments in the life cycle.

The analysis that follows seeks to achieve a deeper understanding of the mechanisms underpinning the creation of purgatories, as well as the logics used by consumers to justify their existence.

**ORIGINS OF ACCUMULATION AND CREATION OF PURGATORIES**

According to Roster (2001), storing without using, neglecting, or hiding can show that the psychological process of dispossession is ongoing. However, complex mechanisms seem to be behind purgatories and associated with processes of idealization and/or the life stories of the interviewees. Based on the interviews, the research sought to apprehend the aspects that structured interaction with these cosmetics forgotten in drawers and cupboards, incorporating norms, values, interests, rules, routines, and rituals. Thus, three origins for purgatories were unveiled: (1) recouping financial investment, (2) low awareness of individual and social needs, and (3) need to keep life memories. This differentiation led to the definition of three types of purgatory that will be analyzed later.

**The outsourced purgatory: alternative consumers sought**

The first purgatory type deals with products that have little use because they did not meet the consumer’s expectations. These purgatories represent an opportunity to minimize dissonances related to unsuccessful choices when trying out new products. The user’s subconscious aim when creating these purgatories is to recoup at least in part the financial investment by trying to find new outlets or users for these products. The intention is to donate and redirect products to others in the household hoping they will be consumed. This therefore constitutes a purposeful disposition in which a product that has not met expectations is made available for consumption by others. This purgatorial practice was relatively frequent and more reflective and rational. The discomfort with the unused product is actively minimized, even if it becomes a part of someone else’s purgatory, rather than actually being consumed.

**The purgatories that are consciously admitted are justified as comprising a store of products to be used by daughters or guests, for example. This practice was very common among mothers and their teenage daughters whose products were bought and inherited from their mothers. In Brazil, where domestic help is widespread, it is also common practice to offer such products to the domestic workers, not necessarily according to their specific needs. Finally, interviewees would simply describe their purgatories as “stocks” for guests who might visit and spend the night, even though this is not necessarily frequently done in the household.**

**The ideal life purgatory: low awareness of individual and social needs**

The creation and maintenance of this purgatory type satisfy the need to equip oneself to handle new or unexpected situations and to build a symbolic bridge for an idealized life. This feeling of unpredictability is typical among young...
professionals, who are dealing with the challenges of new professional and family roles. In order to fit into these new social roles, consumers establish an ideal that they plan to attain in the near future. Beauty products are an important tool in this movement.

The concept of displaced meaning (McCracken, 1988) helps to clarify this dynamic by describing goods as tools available for the individual to apprehend an emotional condition, a social circumstance, or an entire lifestyle. From this perspective, keeping unused makeup, perfumes, anti-cellulite, or facial creams reaffirms this promise of an exemplary existence, in which woman controls life, by mastering the care of her own body and appearance in the midst of several personal and professional demands—even in the face of unexpected situations.

This idealized dimension of beauty product consumption and the consequent creation of purgatories are particularly important at life cycle transitions. Paula’s case (23 years old, student, single) illustrates this movement. She remembers that the imminence of a trip to the USA to work and study led her to buy a complete kit of makeup:

I was a slovenly young woman, who eventually used my mother’s makeup. But, since I was going to live abroad, I decided to have my own stuff. Then I decided to invest in myself. I went to a store and told the clerk: I need everything a young woman has to have.

In this case, Paula presents herself as a consumer in search of needs. To set her makeup kit, she mirrors an ideal young woman and everything she “has to have.” However, the ideal barely fits the intense new routine that Paula encountered in her new life and variety of roles. The beauty products struggle to fit in. Because Paula uses less makeup than her ideal woman, most of those items remained without effective use, forgotten in the drawer, and many of which were discarded during the interview.

This idealization plays a deep-seated motivation role during purchasing and remains active even at the moment of disposal. Marisa (30 years old, business administrator, single) justifies her storage of non-used anti-cellulite creams as a result of her pleasure to explore retail stores in search for new products:

I am the one who buys everything, even these products I do not use. I love that thing of going to the drugstore. I have pleasure in picking, exploring new brands, reading product labels. I love it!

When questioned about the reasons for maintaining non-used anti-cellulite creams in her cramped closet, Marisa declares her intention to use them during the holidays or the next vacation period, when finally “I will have some time to take care of myself.” Dora (45 years old, business manager, married) also idealizes her routine when describing the use of capillary hydration cream: “whenever I go to the beach or the swimming pool.” However, as she goes on to describe her routines, she realizes that she uses it “rarely” or even hardly at all. During the interview, she discarded the product that she had previously said she always used.

The sentimental purgatory: the need to keep life memories
Another explanation for maintaining purgatories may reside in the wish to keep products that, in some way, acquired emotional meanings throughout her life story. By gathering products in purgatories, consumers transform their beauty products into small souvenirs of their trajectories, as in the case of Isadora (21 years old, single, student) who keeps several lipsticks that she used during her schooldays. Although there is no present intention to use them, the products have become a keepsake. Makeup and perfumes were the products through which this emotional connection was most often established, as a kind of special possession. As Young and Wallendorf (1989) suggest, consumers, even the youngest ones, may be afraid of losing the possessions, the self-image associated with it, or the feelings of nostalgia it provides.

In several interviews, we found accounts of perfumes and makeup that were gifts from close friends or relatives, thus making disposal more difficult, as suggested by Rucker and Balch’s (1992) findings. Bárbara (43 years old, single, business manager), for example, keeps an old flask of perfume, which she intentionally does not use: “I like this perfume. It was my father who gave it to me, and as he died, I don’t want it to finish.” The perfume has changed its role from consumer good to family relic. This is similar to Elisa’s (53 years old, married, physician) first makeup case, which she keeps to pass on to her daughter as a keepsake at some point. Even though it exhausted its functional utility a long time ago, she keeps the product because of its personal meaning, as a concrete remembrance of the consumer’s life story and past relations, a similar behavior to that observed by Price et al. (2000).

Product invisibility, cluttering, and purgatory functions
Staring their own heap of beauty products and stimulated by the interviewers’ presence, our informants sometimes were surprised by the presence of forgotten items in the drawers. Some declared their intentions to use them in the future or to donate to someone else; some ended by throwing away. Lastly, one might consider that most of the logics offered by consumers, for example, emotional reasons, hope to use sometime, may be a kind of rationalization technique to explain something done unknowingly or without forethought. Purgatory thus seems to constitute a liminal space where the consumers experience the tensions and ambiguities related to the territory between cluttering, a mild form of hoarding that is an acceptable “schemes of material order,” and hoarding, the disorderly accumulation of things in a chaotic way as opposed to the normal daily practice of storing, arranging, and shifting objects (Maycroft, 2009).

In several houses visited, the interview experience revealed the invisibility of some products. Consumers, in the attempt to explain their consumption material system, came across forgotten, buried products. At that moment, they might simply deal with disposition in an automatic fashion. When cluttering becomes excessive, they try to deal with it by reinforcing previous rationalizations or acknowledging the lack of purpose of this storage. Denise (27 years old, lawyer, single), for example, exposes her large collection of
moisturizers in the bathroom, but we also found forgotten items at the bottom of her closet. Although some of these moisturizers had already expired, the interviewee rationalized her criteria for disposal as follows:

As I have this habit of buying several [moisturizers] to make stock, at a certain point they expire. And sometimes I throw them away because they begin to smell old.

The earlier account reveals the limits of these rationalizations, making evident the lack of an order based on previous schemes of material order like expiration date and the existence of disorderly maintenance practices. On becoming to some extent aware of this accumulation, some of our interviewees do what they call a “cleanup day,” when they would revise their entire stock of products, trying to assess their utility and condition. Although they were not usually able to completely empty their purgatories, our interviewees minimize the inconvenience caused by the size these purgatories attain over time through this cleanup. On this day, the consumer goes through a process of acknowledging the liminal stage of the product that can thus be discarded. Doing this periodic stocktaking, the interviewees manage to deal, to some extent, with the sunk costs, that is, the expenditures already undertaken on certain purchases. The cleanup also seems to restore order and open up space, both physical and symbolic, for new products.

Unlike purgatory practices, based upon unintended or less conscious actions, cleanup day is an effort to achieve objectivity, where consumers mobilize their rational arguments. They affirmatively assess the poor conditions of the purgated products, expiration dates, empty packaging, and/or unused products. Upon completion of the assessment process, products find a new destiny: actual disposal, actual use, or the creation of a new and smaller purgatory cycle.

Besides rationalizing the process, the cleanup day facilitates disposition by enabling the consumer to establish higher objectives, for example, organizing the bathroom cupboard, and thus deciding, a priori, on the disposal of those products comprising the purgatory. This dynamic reveals a new process of choice or a second chance at consumption. Only some products will be “saved” in a circular movement that enables them to remain in the lives of their consumers. As seen by Cappellini (2009), the consumer, in her detachment, reassesses the object, allowing it to remain in the home.

The cleanup day reveals an attempt to bring order, awareness, and intention to the purgatory movement, dealing with their actual ability of making use or not of stored products. It ends up creating a critical movement of the management of product stocks to be evoked on future purchase or use occasions. The more experienced consumers presented a series of management strategies – for example, only replacing and never stocking, purchase of fewer items, and concentration of products in the same usage moment such as the sower – that follow the realization of non-use while dealing with cluttering. Thus, the maintenance of purgatories acquires a didactic function where, faced with their consumption “sins” – excessive purchasing and inappropriate choices – consumers have the opportunity to learn about and rethink their future purchases. Accumulation may sometimes be combated by reviewing and cleaning practices like cleanup day, where rationalization logic regarding the use and storage process is put into practice, allowing a moment of criticism of accumulation practices embraced by the consumer.

The purgatory and the cleanup day develop from a need to deal with the reality of abundant consumption and thus are possibly more widespread among certain socioeconomic groups and categories. In this context, disposition decisions can occur in different ways, and the present research sheds light on a less cognizant or less purposeful dynamic. In product categories such as cosmetics, decisions are not always taken product by product, but rather, as the purgatories suggest, in a systemic wholesale fashion. The consumer decides to forego the functional and symbolic benefits of a set of products that have been accumulated in specific spaces of the home. In other words, purgatory and cleanup day can be understood as practices that reorganize or hierarchize a system of objects and enable the consumer to establish a certain order in the face of excessive consumption.

CONCLUDING REMARKS

Hetherington (2004) suggests that the study of disposition should be mainly concerned with discovering “how consumers manage and are managed by the absent rather than just how they throw things away” (Hetherington, 2004: 159). Investigating the circulation of products inside home, the present study evidences that disposition does not always follow a rational and systematic purchase and finalization dynamic, which runs its course until ending up in the trash can. The research found that disposition practices for a product category of everyday use can be full of nuances and ambiguities that lead to a more sophisticated understanding of the disposition process.

The analysis of the results uncovered a particular practice of disposition that we call purgatories. Previous research has focused mainly on intentional movements of products leaving the home (e.g., Price et al., 2000; Lastovicka and Fernandez, 2005; Cheetham, 2009; Denegri-Knott and Molesworth, 2009). This research, on the other hand, describes a more unintended and co-incidental journey of products into a liminal zone of privileged spaces inside homes. Purgatories are those practices and places where products that are not being used are kept and maintained in a kind of consumption limbo, or liminal stage between use and disposal. This investigation of “retained” products – those forgotten in drawers or at the back of closets – can provide insights into the particularities inherent to the disposition process, revealing tensions that exist in disposition, as well as the logics that legitimize the maintenance of these products in privileged spaces of the interviewees’ homes.

In some cases, purgatories minimize the feelings of dissonance related to the unsuccessful acquisition of products, which turned out to have no effective use. Purgatories are also a means of avoiding waste, where consumers keep products intended for other members of the household and visitors. This practice makes it possible to continue purchasing.
for reducing the risk associated with trying out new launches. In other cases, they are also a “safety stock”: the maintenance of a promise that the consumer may transform into reality when she needs, wishes, or has time to do so in her daily life. Finally, products can also be kept because of the symbolic meanings they enshrine, as elements that make relations or personal trajectories tangible.

In addition, this research contributes not only to the debate surrounding individual item disposition but also to that of product collectivities, which require consumers to manage large amounts of products with similar purposes. The discussion of the cluttering, the cleanup day, and lastly of non-reflective and unintended strategies relates to a material product system that is more challenging to manage. Purgatories seem to emerge as a collective solution for disposition, which become increasingly important given the contemporary nature of consumption with its almost infinite choices and options.

Finally, within a systemic perspective of consumption, disposition has the methodological potential to constitute a symptom of the purchase and consumption process because it expresses the maladjustments, doubts, hesitations, lack of experience, mistakes, and successful decisions of the consumer. Disposition therefore provides a kind of back-to-front perspective on the consumption process, from the end to the beginning, thus enriching it with a view of the “backstage” practices that lie hidden beneath the discourses and rationalizations presented by consumers. Disposition uncovers, for example, the function of maternal supervision/guidance in adolescent consumption. The vast purgatories of young adults, in turn, reveal their continuous trial-and-error process of intense experimentation, through which they take their first and inexperienced steps in the consumption of cosmetics as part of their identity construction process. The near absence of purgatories shows that the consumer has attained a position of greater maturity and self-knowledge. The management of the stocks and disposal of the entire family make consumers more careful when choosing products on store shelves.

This perspective on disposition also provides elements for analysis by practitioners, in that it seeks to understand the impact of disposition practices on future purchase choices. What are the consequences of anti-aging products lying at the bottom of drawers or hidden at the back of shelves? To what extent does this compromise the reputation of brands and has a negative impact on future acquisitions? Moreover, the trend towards more conscious consumption seems to be tied to more socially responsible disposal. How can one consider an innovation without thinking of the aspects related to the disposal of the packaging or the product itself? This field is extremely promising for researchers who are interested in understanding consumption as a system: as a kind of behavior that begins long before and ends long after the choices made in front of store shelves.

As in the case of all research, the present study has various limitations. One should highlight that the present qualitative study was undertaken in the context of affluent Rio de Janeiro consumers, and thus, there was no intention of generalizing its results to any given population group. Future studies can compare and contrast these disposition practices with those of consumers with less disposable incomes. It is also worth investigating how ideologies and/or values, like sustainability or austerity, mold certain disposition practices. Our study focuses on the cosmetics category, and future research can investigate to what extent purgatory creation and accumulation dynamics may be found in other types of consumption, especially the ones with similar characteristics, like low use and high symbolic content, such as books, clothing, and photos. We finally suggest the importance to deepen our understanding of disposition as bonds between mothers and daughters and the passing on of cosmetics to others, also enlarging our comprehension about family identity (Epp and Price, 2008).

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Consumer food waste behaviour in universities: Sharing as a means of prevention

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ABSTRACT
In order to tackle food waste at the prevention stage of the waste hierarchy, an understanding of behaviour that leads to wastage is required. This article examines consumer food waste behaviour in a university setting and the implications for encouraging sharing as a means of food waste prevention. Copyright © 2016 John Wiley & Sons, Ltd.

INTRODUCTION
Food waste is growing along with modern consumption habits attributable to consumers’ wasteful behaviour, attitudes and practices (Evans et al., 2013; Evans, 2014; Farr-Wharton et al., 2014a). In the UK, a developed food and manufacturing sector retails high volume, low-cost food causing increasing perishable food waste at consumer level (Caswell, 2008; Parfitt et al., 2010; Mena et al., 2011). Despite having the second largest population in the EU, the UK contributes the most by country to the 89 million tonnes of food wasted each year by this continent (European Commission, 2010). Of this food waste (considered here as food that can no longer be consumed by humans), the majority originates at consumer level with 60 per cent of this waste deemed avoidable (Bray, 2013), defined as food or ‘left-overs’ that are still edible (Alexander et al., 2013). The wastage of food in its edible, consumption state is a paramount issue embedded within economic, environmental and societal issues of inequality, food security and hunger (Evans et al., 2013; Evans, 2014). There is a lack of knowledge in certain contexts of understanding why so much food is wasted with the UK government, for example, stating in the 2011 waste review that ‘we do not yet have a detailed understanding of the quantities of food waste arising from much of the public sector’ (DEFRA, 2011:59). Within higher education institutions specifically, mitigation of food waste is important in order to meet a targeted 83 per cent reduction in emissions by 2050 (HEFCE, 2012). Overall, consumers across contexts are an important focal point in addressing the creation, reduction and ultimate prevention of food waste.

The most efficient means of mitigating food waste is to focus on preventative actions within the waste hierarchy (Quested et al., 2013). Such actions involve preventing food from becoming or being characterized as waste, discouraging practices that lead to waste by seeking to actively change behaviour (Cox et al., 2010) and rethinking the current practices and systems in place (Papargyropoulou et al., 2014). Understanding consumer behaviour related to food consumption therefore is important in developing more sustainable consumer food waste behaviours. Factors of embodiment (bodily, visceral affects and actions) and embeddedness (the micro and macro context of actions) give explanation to the way in which we interact with food within our everyday lives (Warde, 1997; Goodman and Sage, 2013) and therefore, also hold influence over the transition of food into waste. One approach that has sought to explain this link between food consumption and food waste behaviours is a focus on practices in the form of everyday routine actions and habits (Evans, 2012, 2012a, 2012b). In essence, a practice-based approach focuses on the performativity of behaviour encompassing elements such as embodiment and embeddedness as well as ways of knowing that cut across agency and structure (Reckwitz, 2002; Halkier, 2009). This focus on actions and materiality can be justified because of attitude–behaviour gaps in consumer behaviour (Boulstridge and Carrigan, 2000; Warde, 2005, 2014) and the unrealized nature of wasteful actions hidden within modern throwaway societies (Hawkins, 2005; de Coverly et al., 2008).

Research exploring food waste behaviours has covered the household in-depth (Nye and Burgess, 2008; Evans, 2012a, 2012b; Quested et al., 2013; Stefan et al., 2013; Waston and Meah, 2013; Abeliotics et al., 2014; Farr-Wharton et al., 2014a; Graham-Rowe et al., 2014; Tucker and Farrelly, 2015; Stancu et al., 2016); however, there is a lack of research outside this space as well as a need to focus on preventative rather than reductive solutions at the consumer level. Extant literature on higher education institutions (HEIs) has treated waste as a material detailing its composition and innovative ways to deal with and reduce the volume of disposal material (Felder et al., 2001; Mbuligwe, 2002; Mason et al., 2003; Armijo de Vega et al., 2008; Babich

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and Smith, 2010). There is a need to understand why consumers are generating so much food waste within this setting and actively implement initiatives to prevent it. Specifically, there is a need to move away from individualized approaches that frame the problem of food waste as one at the consumer level in order to account behaviour to wider factors reflected in the organization of everyday routines and habits, a stance that is currently absent from policy (Evans et al., 2013).

This study examines consumers’ food waste behaviour within the context of HEIs using a study setting of a university in the West Midlands, UK. The study employed mixed qualitative methods and implemented an intervention to encourage sharing as a means of preventing food from being wasted which facilitated exploration of the link between food consumption and food waste behaviour. Firstly, an understanding was sought of how students and staff consume food on campus, followed by an analysis of their consumption behaviour that led to the wastage of food. Knowledge of how the university managed food waste was also examined to explore how institutional procedures influence consumer food waste behaviour within this space. Emphasis was placed on consumers’ everyday routines and habits involved in consumption and wastage of food whilst also taking into account attitudes and motivations. A contribution is made regarding the embodied and embedded nature of consumer food waste behaviour.

The paper is arranged in the following manner: First, a review of literature outlines current work in the area consumer food waste behaviour and how more sustainable consumption behaviours can be encouraged. This is followed by the methodology section detailing the mixed-method approach employed. The paper then moves to present findings and gives a discussion of consumer’s food waste behaviour and the practice of sharing food as a means of preventing the wastage of food.

LITERATURE REVIEW

Consumer food waste behaviour

Preventing food from being wasted requires an understanding of consumer behaviour related to food before its transition into waste, in its consumption or ‘in-use’ state (Quested et al., 2013). Consumer food waste behaviour therefore has a context consisting of the circumstances within which the food is consumed that characterizes the point at which food becomes waste (Evans, 2011). Food as a material is transgressive and boundary crossing with regard to consumer interaction, which is constructed from ‘spaces and places, nature and culture, society and technology, bodies and environments, the personal and the political, ethics and morality’ (Kniazeva and Venkatesh, 2007; Goodman and Sage, 2013:6). The behaviour of consuming food involves and relates to a range of activities surrounding provision, eating and disposal (planning, organizing, shopping, purchasing, storage, preparation, eating, reuse and disposal) extending across social, cultural, economic and environmental realms in the developed world (Kniazeva and Venkatesh, 2007).

Embodyment and embeddedness represent key features of consumption behaviour. With regard to embodiment, Goodman and Sage (2013) emphasize how the act of eating food forms intimate relationships of a variety of feelings and affects of the body such as visceral aspects of taste, appearance, smell and touch, as well as pleasure, disgust, authenticity, place, production and power. The body is a central element of consumption, active in the construction of consumers’ habits (Wilhite, 2012; Warde, 2014) such as knowledge of food health risks (Kristensen et al., 2013) and the performance of energy consuming actions (Wallenborn and Wilhite, 2014). The embodiedness relates to how consumer actions can be placed in a micro and macro context extending from local level constructions of space to global level food politics (Shove et al., 2012; Warde, 2014). Sites of food consumption such as the kitchen reproduce social, cultural and economic factors through the storing and cooking of food (Southerton, 2001) with wider societal commitments directly influencing the regularity of eating habits (Fonte, 2013; Lund and Gronow, 2014). Within the consumption of food, a consumer can be placed within a complex sphere of relationships and interactions, ‘a visceral reminder of how we variously inhabit the axes of economics, gender, sexuality, history, ethnicity and class’ (Probyn, 2000:9).

Research has already shown how our interactions with waste can be accountable to a disregard for the environment (Hawkins, 2005) with technological development in the disposal and processing of waste removing further thought of wastage within the habits of everyday life (O’Brien, 2007). Thompson’s (1979) rubbish theory outlines this process of how consumer products decrease in value over time to become classified as waste. In the case of food, this is undertaken over a shortened period undergoing a transformation from surplus to excess (Evans, 2014). The work of David Evans has been prolific in exploring this transition within the context of the household, highlighting consumer anxieties of food safety and over provisioning as well as the temporalities that cause surplus food to ‘slip’ into excess (Evans, 2012a, 2012b; Evans et al., 2013). Evans (2014: xv) argues that the transition of ‘food into waste occurs as a more or less mundane consequence of the ways in which practices of everyday and domestic life are currently carried out and the various factors that shape the prevailing organization of food consumption’. Actions surrounding domestic provision such as having an organized and informed system of purchasing (Stefan et al., 2013) and storing food (Farwharton et al., 2014a) and as well as the interpretation and negotiation of food safety information (Watson and Meah, 2013) have been linked to consumer food waste behaviour within the home. This link encompasses both embodied and embedded factors reflected in Southerton and Yates’ (2015:136–137) identification of six factors that connect behaviours of food consumption and food wastage: ‘food safety and health, variety and plenty, care, convenience, economy, extravagancy and indulgence’.

The transition of food into waste is not necessarily a linear process and behaviour that causes food to be delayed or redefined as edible rather than being wasted is critical to prevention. Research has shown how the classification of food
as waste is renegotiated through the consumption of leftovers within the household (Cappellini, 2009; Cappellini and Parsons, 2013). Evans (2012a) describes a number of ‘conduits’ through which food waste is reduced and prevented by being saved and used in some form. Such research on both the transition of food to waste and the negotiation of this process is occupied by behaviour linked to provision, eating, preparation and disposal located within the household. A lack of knowledge exists regarding this transition outside the home with understanding of consumer food waste behaviour outside this space, potentially providing a critical insight into the embodied and embedded nature of such behaviour.

**Encouraging more sustainable consumption behaviours**

A pre-occupation of sustainable and ethical consumption is research that seeks to not only give explanation to negative environmental behaviours but also how best to change consumer behaviour for the better. There are two prominent approaches amongst others that have sought to address this problem. On the one hand, research attempts to be ‘methodologically individualistic’ encouraging sustainable behaviour by focusing on consumer’s agency (Warde and Southerton, 2012; Welch and Warde, 2015), framing their behaviour on an individual, cognitive level (Udehn, 2002). This utilizes an attitudinal basis to facilitate a change in behaviour, for example, through incentives or penalties used to either reward or fine positive or negative environmental activities (Stern, 2000; Nye and Burgess, 2008) or by promoting and encouraging desirable behaviours by informing consumers (Burchell et al., 2012). Here, behaviour change is understood in relation to the ‘sovereign consumer’ who acts solely according to factors that influence their choices and intentions (Norton et al., 1998). Such approaches have been criticized as they have yet to demonstrate the scale of impact needed to lead to a noticeable social change (Shove, 2010; Evans, 2012a, 2012b) limited in providing short-term rather than long-term behaviour changes as they overlook the way in which consumption is located in everyday collective actions (Mooney and Strengers, 2014). A ‘value-action’ (Vermeir and Verbeke, 2006) or ‘attitude–behaviour’ gap (Boulstridge and Carrigan, 2000; Carrington et al., 2014; Shaw et al., 2015) has been observed in consumer behaviour as such interventions rely on consumer’s egotistic and altruistic intentions towards the environment in order to change their behaviour (Schuiitema and de Groot, 2015), with a discrepancy between holding green values and acting upon them (Spaargaren, 2011). However, the validity of this polarization of attitudes and behaviour has been questioned (Moraes et al., 2012), with more sustainable consumption shown to be possible through individualized empowerment within a collective context of actions (Belkin et al., 2007; Connolly and Prothero, 2008).

In light of the limitations of explanations of behaviour based solely on the individual consciousness, academics in the field of consumption have turned to theories of practice as an alternative approach (Warde, 2005, 2014). This theory has several readings (Reckwitz, 2002); however, a ‘practice-orientated approach’ has emerged (Corradi et al., 2010) to interpret behaviour as a collective of ‘doing’ actions known as practices which are continually constructed, challenged and modified over time (Schatzki, 2001; Shove et al., 2012). The key difference in approaches is explained by Evans (2012a, 2012b):116) in noting that ‘ecologically damaging forms of consumption are not seen as a problem of individual consumer behaviour; rather, they are understood as embedded within the prevailing organization of practices’. Consumption here is understood as taking place through practices that are recursively reproduced as part of everyday routines (Warde, 2005, 2014). Such an approach has allowed investigation into the ‘unremarkable and unrecordable’ nature of consumption behaviour, being so mundane within everyday life it is invisible to the individual (Warde and Southerton, 2012:6), with little work in the area of food and food waste using a practice approach (exceptions include Halkier et al., 2011; Domaneschi, 2012; Fonte, 2013; Sahakian and Wilhite, 2013; Southerton and Yates, 2015).

Attempting to change these everyday routine practices is an effective but challenging method of addressing negative environmental behaviour (Røpke, 2009). Hargreaves’s (2011:90) endeavour to ‘deroutinize existing waste habits and reroutinize new ones’ for example was met with opposition because of its placement within legal obligations of data protection, cleanliness and hygiene with participants seeing any effort to change their wastage habits as an invasion of privacy. Sahakian and Wilhite (2013: 40) discuss changes to behaviour through the modification and introduction of new practices in the context of food and drink, detailing the need to identify all ‘agentive aspects of a particular practice’ in order to facilitate change. Consumption practices are inherently complex and are entangled within the everyday lives of individuals (as carriers of practice) (Shove et al., 2012), and any attempt to change behaviour through the modification or introduction of new practices involves a degree of negotiation (Berthou, 2013). The variations in the performance of practices and the overlap of defining and linking practices with specific consumer behaviours (Shove and Walker, 2010; Bellotti and Mora, 2014) also present difficulties in attempting to modify or change practices as an intervention.

Given the literature reviewed in the preceding texts, this study sought to investigate the embodied and embedded aspects of consumer food waste behaviour. The focus of food waste behaviours in a HEI setting aimed to fill a knowledge gap regarding the transition of food into waste at consumer level outside the home. The paper also presents the barriers of attempting to prevent food waste by encouraging the sharing of food using a social media-based intervention. A mixed-method approach is detailed in the succeeding texts along with a description of the intervention.

**METHODOLOGY**

A university in the West Midlands area of the UK was used as a study site, employing three stages of data collection using a mixed-method approach over a 4-month period. This fieldwork design was consistent with the research aim of
furthering the embodied and embedded natures of food waste behaviour as well as using an intervention to encourage sustainable behaviour through sharing food to mitigate wastage. A multi-sited approach was taken to conduct research across a number of spaces as the campus area included eight food outlets. This approach allowed the researcher to acknowledge the interconnected nature of spaces and frame the field of enquiry (Amit, 2000; Pink, 2000; Pink, 2007). Moraes et al. (2012) uses a multi-sited approach in exploring the attitude–behaviour gap, noting its ability to facilitate the employment of mixed methods. Three key groups were targeted – students, academic and operations staff – as they actively inhabited the campus on a daily basis, with students and staff regularly performing food consumption behaviour. Catering staff were of specific interest given their role in the everyday routines of managing food and its disposal.

The first stage involved a survey to record information on attitudes and awareness of food waste, its relation to other environmental concerns and motivations to reduce food waste. Participants were recruited on campus at an environmental awareness event and through a faculty-wide email. In order to mitigate attitude forcing, nine open questions were used, enquiring into participant behaviour of a total of 19 questions, and 104 were completed. This stage also involved ethnographic observation to capture typical consumer behaviour at each of the eight catering outlets at three different time periods. A realist approach was employed to make self-reflective notes on consumer behaviour whilst being aware of the limitations of knowledge constructed through the researcher’s gaze and the impact of the researcher on the environment being studied (Creswell, 2007). This method was beneficial in observing daily patterns of food waste by consumers and how staff managed waste in dining areas.

In the second stage, semi-structured interviews gained an insight into the nature of catering operations. Five interviews with staff from different catering outlets were conducted, enquiring into the nature of catering operations, practices employed to manage wastage levels and the habits of customers. Three focus groups were also undertaken to establish the extent of the participant’s knowledge of the issue of food waste and facilitate a discussion on behaviours that cumulate, reduce and prevent food waste. Groupings of staff, students and catering staff were shown a presentation of images and information on food waste at global, national and regional levels to stimulate conversation. The focus groups facilitated the construction of opinions and arguments allowing the participants to negotiate meanings (Cook and Crang, 1995).

The final stage of the research involved the implementation of an intervention as a means of modifying current food waste behaviour. Research in the area of human computer interaction has previously shown how social media offers a space for social comparison and accountability, influencing norms and giving feedback on environmental impact (Froehlich et al., 2010; Foster and Lawson, 2013; Foster and Lineham, 2013). Such research gives examples of how routine waste practices can be challenged. Farr-Wharton et al. (2014b) explore the role of mobile applications in reducing household food waste, highlighting the hesitation and reluctance to share food. Comber and Thieme (2013) generate awareness of wasteful habits by uploading pictures of bin contents onto the social media site Facebook. Ganglbauer et al. (2013) also exemplify how technology can be used to modify negative environmental behaviour, allowing consumers to view the contexts of their fridge whilst shopping to prevent over-provision of food.

The intervention in this study consisted of a social media tool on the platform, Twitter, which allowed the participants to send messages to inform others of food that would have otherwise been wasted within the study setting. The social media tool operated as a means of interrupting the linear process of consumers consuming and throwing away food on campus; its workings are explained in Figure 1. Awareness and participation in the tool were encouraged through promotion via existing social media channels at the university and a poster campaign.

A thematic analysis was employed to qualitative data collated across the survey, focus groups, semi-structured interviews and ethnographic notes. Aspects of embodied and embeddedness of food and the practice-based approach taken informed the coding and condensing process (Halkier and Jensen, 2011). Content generated through the interaction of the consumers via the social media tool was also collated; however, there was insufficient usage to justify an in-depth coding of findings. The reasons for the consumers’ lack of engagement in the sharing intervention are discussed in the subsequent section amongst consumer food waste behaviour on and off campus and sharing as a means of food waste prevention.

FINDINGS AND DISCUSSION

The findings presented and discussed firstly outline consumers’ food waste behaviour followed by an insight into sharing food as a means of food waste prevention.
Consumer’s food waste behaviour on and off campus

A lack of consumer awareness of the issue of food waste was apparent from the survey and focus group findings. The majority of the participants stated that they wasted little if any food, with two thirds of survey participants stating that they wasted no food during their last meal eaten on campus, thus emphasizing the hidden nature of food waste behaviours. Within the food supply chain, participants located actors in the transportation and production of food as the primary cause of food waste rather than identifying the consumer as shown in the following quote from the student focus group.

*If you look at countries that grow that food they also don’t have the transportation and the storage and the refrigeration. So they are wasting loads over there before it even gets here and that’s not really something I really thought about but as soon as I read about that I was like yea of course. So it’s not even us that’s wasting loads it’s the whole supply chain, which is even more terrible (undergraduate student)*

There was great surprise by the focus group participants to learn that food waste from UK consumers greatly outweighs waste from manufacturers and retailers, supporting the unacknowledged nature of food waste at consumer level (Hawkins, 2005). The students in particular felt that as consumers, they wasted little, drawing upon the idea that they are ‘too poor to waste food’. Motivations for taking action on food waste were found to be inherently personal such as the need to save money rather than connecting the issue of food waste with wider problems in the food system. This suggests that consumer actions to mitigate food waste are not underlined by egotistic intensions and green values (Schuitema and de Groot, 2015). Typical actions implemented to reduce and prevent food waste were linked to the routines of food provision, preparation, consumption and disposal at home. Nearly a third of the survey respondents stated that they regularly monitored their portion sizes to prevent food waste. A fifth of the respondents stated that they saved food and ate it at a later date, and other answers included always eating all food served, meal planning, checking used by dates and sharing food with others. Here, the consumers can be seen as actively drawing upon everyday food consumption habits when giving explanation to behaviours that either cause or mitigate food wastage. The consumption of food extends across a number of actions from provision to disposal that can be seen to also shape food waste behaviours (Kniazzeva and Venkatesh, 2007), showing how such behaviours can be placed within mundane routines and habits located within the home (Evans, 2012a).

It is questionable whether the actions that the consumers indicated they undertook to reduce and prevent food from being wasted were consistent when undertaken outside the home. For example, the catering staff noted that the students were particularly wasteful whilst dining at the university. They do waste quite a lot especially when they first get their money; they seem to spend it all and then don’t eat it (Catering staff member)

This was noted to be attributable to living away from home and the lack of experience in managing student loan funds according to the catering staff. Here, an economic tie is evident in the availability and timing of student loan funds that drives wastage through facilitating food consumption practices such as purchasing meals on campus. This suggests that social commitments, such as entering into higher education in this case, can be seen to influence both food consumption and subsequent food waste behaviours through engagement in new routines and responsibilities (Lund and Gronow, 2014).

The ethnographic observations and insight into consumer behaviour by the catering staff highlighted how consumer food waste behaviours were embedded within the study setting. For example, the time-constrained nature of study and work in a university environment contributed towards the hidden nature of food waste as explained by one staff member:

*The lack of infrastructure that can be accessed by an individual to recycle food is inhibiting, how much time does it take to reduce food waste? Lunch tends to be a quick meal in a short break (if one stops working at all) so convenience is essential (Academic staff member)*

The working and studying practices of the staff and students created an ‘on the go’ busyness which countered any conscious thought of both food waste actions and the issue in general, suiting the consumption of convenience food and removing the further thought of disposal. This was accentuated by the cleaning roles undertaken by the catering staff in dining areas, operating an efficient service of regularly clearing and cleaning away dirty plates and waste left on tables. This removed the responsibility from consumers to deal with any remaining food left, thus hiding both the spectacle of food waste and the need for diners to make any active effort to dispose of their wasted food. This suggests that in a time-pressured environment where consumers have preference for convenience and are absent from the provision and preparation of food, responsibility of managing disposal is lost and transferred to the working practices of the catering staff. This exemplifies points made by Warde (2014) regarding the importance of routines and habits within a local context in giving explanation to consumption behaviour. The consumers’ food waste behaviours were embedded within the campus setting and unlike in the household, the consumers only interacted within food in its edible state; thus, the reasons for wasting food differed from in the home where waste is linked to provision, preparation and knowledge of storing and cooking food (Waston and Meah, 2013; Furr-Wharton et al., 2014a).

Visceral standards linked to the bodily senses such as the appearance, feel, taste and smell were also found to influence consumer food waste behaviour.

*Every now and again I just have a clear out of the fridge of loads of stuff that’s fresh, I’m picky as well with fresh*
staff so tomatoes, they have to be firm, if they’re not firm I bin them …… I won’t buy any carrots or potatoes that I’ve not handpicked myself and looked at (Academic staff member)

This quote emphasizes the embodiment of food in how our senses are important enablers in both consumption and wastage (Wilhite, 2012). The study saw similar findings to Kristensen et al. (2013), with consumers drawing upon their senses and factors of trust in negotiating the edible state of food. On campus, the taste and appearance of food served by the catering outlets were stated as a reason that contributed towards its wastage. The consumers noted that they ‘lost interest’ in food and that it was ‘tasteless’, showing its inability to meet the visceral standards for food to be inciting enough to justify consumption, thus contributing towards wastage.

Food sharing as a means of food waste prevention
When implementing the social media tool as a means of sharing food on campus to prevent food waste, a number of barriers were experienced, and the tool failed to achieve any considerable change only being infrequently used over the study period. However, by evaluating why this initiative failed to have the foreseen impact, critical information is uncovered on the consumers’ engagement with sharing food as a means of food waste prevention, enabling further insight into consumer food waste behaviour. Discussing the social media tool with the consumers, the general consensus was that this was a ‘good’ and ‘positive’ thing; however, there was a distinct gap between the intentions of the consumers and their actions (Vermeir and Verbeke, 2006).

The consumers held heightened visceral standards for food shared via the social media tool. The relationship between the person donating and consuming the shared food was important in facilitating trust that the food was edible and not contaminated. Previous research has shown that instances when food is shared take place within the home where consumers are linked through domestic practices of provisioning and consumption that reflect family values (Evans, 2014). Without a social relation between the two sharing actors, caution and concern over food were expressed as shown by a catering staff member.

Some people might feel like it’s dirty food, I don’t know who you are, I don’t know if you’ve got a cold, that sort of stuff (Catering staff member)

Without being able to draw upon knowledge of the conditions of the food’s preparation and subsequent interaction, appearance, smell, feel and taste are relied upon to determine the edibility of food. The body was critical in negotiating the safety of food with these senses heightened in circumstances where the consumers had concerns over the safety of the food shared or held limited trust with the donator (Wilhite, 2012). Wallenborn and Wilhite (2014) discuss how the body plays an important role in constructing embodied knowledge and its influence on the performance of practices. This can be furthered to note the importance of the social context the practice is performed within, noting here the heightened role of the body in consumption practices on campus. Outside the home, the donator and how this person handled the food played a more influential role than how food safety is negotiated at home (Waston and Meah, 2013).

The tool placed the person sharing the food in a position of responsibility that food was in an edible condition, and the lack of replies to disseminated messages showed a lack of trust through virtual means to recover and consume food that would otherwise be wasted. Similar findings were observed to Farr-Wharton et al. (2014b) in that the consumers lacked trust to facilitate sharing with others because of not holding appropriate knowledge that food was safe to eat — knowledge that is typically embedded in domestic food consumption practices within cases of sharing in households (Evans, 2014). Where food was shared, relationships formed through other practices, such as working relationships, were used to justify this behaviour and facilitate the sharing and prevention of food waste. The bonding and identity formation Kniazeva and Venkatesh (2007) associated with collective consumption and sharing food was not observed, suggesting that mitigation of food waste does not have the same social justification to bring people together.

A further finding was that the rules and procedures embedded within university structures prevented both the sharing of food and consumers accessing shared food. Strategies to tackle food waste were viewed through a waste management lens, tackling food waste as a problem of material management rather than changing behaviours that lead food to be wasted, emphasizing the need for a greater focus on preventative actions further up the waste hierarchy (Quested et al., 2013; Papargyropoulou et al., 2014).

Spatial limitations were observed as the students were unable to access all areas of the campus to collect shared food and the staff disapproved of the idea that the students would access spaces predominantly occupied by the staff. This is supported by the fact that there was an inherent ownership of food. With food delivered by the catering services for meetings, the staff disagreed that the food should be shared with others outside their department as well as with the students, preferring their immediate colleagues to have first opportunity to consume such food. This suggests that working relationships facilitate sharing and collective food waste prevention despite the disconnection with other food consumption practices such as provisioning and preparation. Instances where such food was shared however were marked by feelings of guilt as one staff member noted:

We literally have got no shame in our office, if we’ve had a meeting and there’s loads of food left over, normally it’s because we’ve paid for it, we’ll just clear the lot and take it back to the office (Academic staff member)

Evident here is the particularly negative attitude towards consuming food that is classified as waste but still in an edible capacity. Recovering food from being wasted was constructed as ‘shameful’, highlighting that acquiring food by such means is seen as unacceptable. The consumers
expressed concern and guilt over obtaining food via recovering or recirculation means, a practice that associated with thrift in the home (Cappellini, 2009), exemplifying how a cultural norm influences the conduits of disposal (Evans, 2012a). This is also emphasized in the following discussion during the student focus group on whether freeganism (the practice of reclaiming and eating discarded food) was acceptable.

Student 1: Access to food is a human right, that’s the way she has had to go and get food she shouldn’t be prosecuted for that
Student 2: but isn’t the right to food... isn’t it that you have to be able to obtain food in a socially acceptable way
In society it’s not really acceptable to be rummaging in bins
Student 3: But who is deeming this not acceptable?
Student 2: Society is but it doesn’t mean it’s not a good idea but it’s just not normal (student focus group)

This conversation again shows that interrupting the linear journey of food from creation to disposal is not seen as socially acceptable. Once food is classified as waste by either an individual or an organization, recovering and then consuming this food is not seen as a normal means through which to acquire sustenance (Nguyen et al., 2014). The findings highlight the difficulty of introducing sharing as a means of changing behaviour as a result of pre-conceived ideas the consumers held about ‘leftovers’. As one student notes ‘we are too prestigious a nation to ask for doggybags’, signifying the alienation of practices of sharing and recovery of food outside the home and overall displacement of the prevention and reduction of food wastage from norms of behaviour.

The factors described in the preceding texts give justification for the failure of the social media tool to encourage the prevention of food waste via the practice of sharing. Food waste behaviours were ingrained in practices that transgressed both the university and the home setting. Utilizing a practice-based approach has revealed how food consumption behaviour is interlinked with other behaviours in the form of sets of actions that determine routines and habits. Any modification or introduction of new behaviours thus involves a degree of negotiation of behaviour located in the habits and routines of the everyday (Berthou, 2013). The study suggests that agentive aspects of attitudes, values and motivations for mitigating food waste do not reflect consumer food waste behaviours as well as a motivational gap in that the social media tool required consumers to act on their knowledge and concern for the issue of food waste in order to share food (Vermeir and Verbeke, 2006). Attempting to establish a behavioural norm within a virtual space was also a barrier suggesting that technological applications that encourage new behavioural norms do not easily translate into an uptake in sustainable behaviour. Overall, there were inconsistencies in the reduction, prevention and redistribution practices in the study setting with embodied and embedded factors limiting positive environmental behaviours.
ACKNOWLEDGEMENTS

I would like to thank Professor Moya Kneafsey, Dr Siraj Shaikh and Selina Fletcher at Coventry University and Dr Caroline Moraes for their help and guidance. This research was supported by the Chartered Institute of Wastes Management under the Defra Masters Support Programme.

BIOGRAPHICAL NOTES

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Conceptualising the relationship between shopper religiosity, perceived risk and the role of moral potency

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ABSTRACT

The primary aim of this paper is to conceptualise the influence of shopper religiosity on perceived risk and the moderating role of moral potency when purchasing religiously questionable products from retailers. An extensive review of extant literature was undertaken, drawing together the General Theory of Marketing Ethics and the concept of moral potency, in a retail context. A conceptual model is developed that provides the basis for future inquiry. The model elucidates the complex relationships between the dimensions of religiosity and social and psychological risk and then explains the moderating role of moral potency. The model offers a strong psychological explanation of how a shoppers’ religion may increase their perceptions of risk in a purchase situation. The model also argues that risk perceptions may be heightened (or lessened) as a result of the shoppers’ personal responsibility, confidence and courage. Retail managers may choose to implement this model in order to better predict shopper adoption behaviour of new religiously questionable products. The model allows for future empirical examinations across multiple shopping contexts and may be employed to estimate levels’ demand for new products based on the extent of religiosity, moral potency and risk. The role of religion within retailing and shopping behaviour is emergent. Extant retailing literature has previously overlooked the role of religion as an antecedent to risk and the role of moral potency in moderating that relationship. This is the first paper to highlight these gaps and propose a testable model. Copyright © 2016 John Wiley & Sons, Ltd.

INTRODUCTION

Religion remains one of the major sources of norms, judgments, attitudes and actions for many consumers. The role of religion in extant consumer behaviour literature is only now emerging (Abdelmajid and Hendaoui, 2012; Choi, 2010; Moschis and Ong, 2011), with an initial focus being on the shopper’s purchase decisions related to products or services that are considered prohibited (Wilkes et al., 1986; Pace, 2012), for example, Hinduism and the consumption of beef products (Wilson and Liu, 2010; Rezaei et al., 2010), Islam and the purchase of alcohol (Alserhan, 2011; Abu-Ras et al., 2010) or halal food (Ahmad et al., 2015). As proffered by Mathras et al. (2016), the impact of religion on shopper behaviour is an important area of research as each religion has, to some extent, prohibitions in its doctrine that are related to consumption. However, the influence of religion on retailers and shopper decision making is a far more complex issue than one which is simply limited to what product or service is forbidden (Vitell, 2009; Pandey et al., 2015).

Although telephones during the 1930s and televisions during the 1960s were legally obtainable in the Kingdom of Saudi Arabia, warnings from religious leaders slowed the diffusion of such products (El-Tahri and Smith, 2005; Al-Rasheed, 2010). Today, however, these products have reached saturation levels. More recent examples come from reality television and online social networking sites such as Facebook, Twitter and Snapchat, which endured strong resistance from religious leaders and their followers in the past (Young, 2014; Taylor et al., 2013; Muhamad and Mizerski, 2013; Wilkes et al., 1986). More specifically, it has been suggested that the risks shoppers perceive when confronted with religiously questionable products, such as financial services for Muslims or contraception products for Catholics, significantly affect their future purchase behaviour (Sweeney et al., 1999; Abdelmajid and Lazzaoui, 2011). So, while it is widely accepted that perceptions of risk play an important role in

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Article Classification: Conceptual paper

DOI: 10.1002/jcb.1583
the shopper’s decision making process (Taylor, 1974; Mitchell and Harris, 2005), it remains unclear how a shopper’s level of religiosity might affect their perceptions of risk and therefore their intentions to adopt religiously questionable products or services offered by retailers. This conceptual work develops theoretical model in order to identify the possible psychological mechanisms that better explain this relationship, while setting the scene for further inquiry. We argue that religiosity is a significant antecedent to perceived risk and may provide more important insight into the mechanism by which levels of shoppers’ religious views might affect their perceptions of risk and therefore adoption of products and the quality of the relationship between themselves and the retailer. As such, there is a need to develop a more theoretically robust explanation of how individual religiosity may affect shopper behaviour (Vitell, 2009). Hence, the first aim of this work is to develop initial propositions that conceptualise the role of religiosity and its relationship to shopper perceived risk.

While a shopper with high levels of religiosity may demonstrate well-intentioned norms and beliefs, such as attending church or complying with religious doctrines, it is unknown whether these shoppers will continue to apply these values in all contexts (Vitell, 2009). So, even though a shopper may define themselves as highly religious, they may deviate from these norms and beliefs, if they lack the moral potency (Hannah and Avolio, 2010), to uphold those beliefs in certain situations. Moral potency is a critical theoretical factor that addresses whether people will act according to their religious beliefs or not (Hannah and Avolio, 2010; Hannah et al., 2011). It is defined as a psychological state distinct by an experienced sense of ownership over the moral characteristics of person’s environment, reinforced by efficacy beliefs in the capabilities to act to achieve moral purpose in the domain and the courage to perform decently in the face of diversity and persevere through challenges (Hannah and Avolio, 2010, p. 292). Case in point is the diffusion of social networking sites through Islamic countries (Social Bakers, 2013) in the face of criticism from religious leaders and social norms (Alarabiyah, 2012; Almunajed, 2011). While the concept of moral potency has been used to explain the organisational behaviour of managers faced with difficult choices, this is the first paper to employ this construct in a shopping behaviour context. Therefore, the second aim of this work is to conceptualise the role of moral potency, between a shoppers’ level of religiosity and perceived risk.

CONCEPTUAL DEVELOPMENT

Consumer religiosity and risk perception

To develop our conceptual work properly, we undertook a detailed review of relevant literature in the areas of religion and marketing, religiosity and marketing, consumer religiosity and ethics and consumer risk perceptions. Our approach was to search in the databases of Ebsco, ProQuest and Springer using the following terms: marketing and religion, consumer religiosity, religion and ethical consumer behaviour and risk perceptions. As religion is an active factor in many aspects of human behaviour, while undertaking this significant review, our focus was on literature related to retail businesses and marketing rather than other areas of social science, in order to clearly conceptualise the impact of religiosity on consumption behaviour.

Links between religion and consumption behaviour did not appear in marketing literature until the mid-20th century (Culliton, 1949; Vitell, 2009). Hirschman (1982) first explored the link between religion and consumer behaviour, suggesting that a shoppers’ religious affirmation may influence their buying decisions (Parameshwaran and Srivastava, 2010). Hunt and Vitell’s (1993) inclusion of religion in the revised General Theory of Marketing Ethics again not only demonstrates an important contribution to the field but also signals the continued interest of researchers. They suggested that religion is a significant factor that influences consumer-perceived probabilities of negative consequences, through self-evaluation and ethical judgments, and propose that the strength of religiosity may result in differences in shoppers’ decision making process and behaviour (Hunt and Vitell, 1993).

Research that links religiosity with shopper behaviour can be divided into two research streams. The first focuses on religiosity and shoppers’ perceptions, evaluations and decision making (e.g. McDaniel and Burnett, 1990; Delener, 1990, 1994; Essoo and Dibb, 2004; Muhamad and Mizerski, 2013; Choi, 2010; Brown, 1986; Minton, 2015). Studies in this stream confirm that religion is essential to a shopper’s attitudes and behavioural processes. Using either religious commitment or religious orientations to conceptualise religiosity gives a comprehensive description of the relationship between religiosity and consumer behaviour (Choi et al., 2013). By contrast, using only religious affiliation to obtain religiosity does not help, in most cases, to describe this relationship. The second stream focuses on religiosity as a variable that affects shoppers’ morality, ethical beliefs, ethical judgments and ethical intentions (e.g. Clark and Dawson, 1996; Vitell et al., 2009; Vitell et al., 2005; Vitell and Paolillo, 2003). Research within this stream synthesised the relationship between religiosity and morality and materialism in areas such as religions, social psychology and values (Baker et al., 2013; Vitell, 2009; Ramly et al., 2008). Geyer and Baumeister (2005) posited that religion had well-built ties to morality in that religion prescribed morality. However, this does not mean that religion is the only source of morality but rather that it is a major source of morality, albeit a significant one (Vitell, 2009). The main guidance of the research in this stream was Hunt and Vitell’s (1986) General Theory of Marketing Ethics. According to Vitell (2009), there was enough support to affirm that shoppers with high levels of religiosity tended to have stronger ethical norms than those who had weak levels of religiosity. However, he pointed out that “much more research still needs to be done in this area” (Vitell, 2009). For example, there is a particular need for more work on the link between religiosity and shoppers’ moral philosophies, especially considering shoppers’ different cultural backgrounds, before scholars can make any definitive

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DOI: 10.1002/cb
statements regarding these links (Schneider et al., 2011). The main contrast between these two streams in the literature is that one concentrates on the shoppers’ decision making process, while the other focuses on the ethical understanding in shopper behaviour. This is the first paper to draw together these two streams, through the theoretical lens of Hunt–Vitell’s General Theory of Marketing Ethics, in order to explore the relationship between shopper religiosity, perceived risk and the role of moral potency.

**Conceptualising religiosity**

Extant literature offers several definitions, conceptualisations and measurements of religiosity (Moklis, 2009), thus attempting to conceptualise religiosity; the absence of a commonly accepted definition is problematic (McDaniel and Burnett, 1990; Muhamad and Mizerski, 2013). Earlier approaches considered the belief in a God and the extent of church attendance as the only factors to distinguish highly religious people from the less religious (e.g. Allport and Kramer, 1946; Rokeach, 1960). Nevertheless, religiosity can also be based on denominational membership or religious affiliation (e.g. Hirschman, 1981, 1983a; Hirschman, 1983b; Siala et al., 2004; Farah and Newman, 2010; Rosenbaum et al., 2013). Others have argued that religiosity is highly individualised and therefore must be considered as a multidimensional construct (Wilkes et al., 1986; De Jong et al., 1976). Consequently, Wilkes et al. (1986) evaluated religiosity by church attendance, importance of, and confidence in, religious values and self-perceived religiousness. McDaniel and Burnett (1990) and others have continued to support the multidimensional conceptualisation of religiosity (e.g. Swinberge et al., 2011; Fam et al., 2004; Abdelmajid and Hendouci, 2012).

In addition, other scholars have sought to explain the primary motivation for religiosity in terms of a differentiation between the dimensions of intrinsic and extrinsic religiosity (Schaefer and Gorsuch, 1991; Allport and Ross, 1967). Allport (1950) firstly introduced the concepts of intrinsic and extrinsic religiosity as the ‘religious orientation and motivation concept’. Extrinsic religiosity was considered reflective of personal and utilitarian motivations, whereas intrinsic religiosity was defined by internalised beliefs regardless of external consequences (Schaefer and Gorsuch, 1991). Simply, intrinsic religiosity defines religion as a meaning-endowing framework in terms of which all of life is understood (Clark and Dawson, 1996). In contrast, extrinsic religiosity defines religion as a social convention, a self-serving instrumental method shaped to suit oneself (Clark and Dawson, 1996; Donahue, 1985).

Extrinsic religiosity can further be explained under two sub-dimensions: social and personal (Chen and Tang, 2012). Social and personal extrinsic religiosity is differentiated by behavioural outcomes and goals. Socially extrinsic religiosity aims to achieve social outcomes such as making friends or gaining acceptance within a community (Chen and Tang, 2012). The concept of social extrinsic religiosity utilises religion as means-to-end, while personal extrinsic religiosity focuses on personal individual objectives such as happiness, relief, comfort and protection (Chen and Tang, 2012). For example, a practicing Muslim with high personal extrinsic religiosity will fast during Ramadan to attain improved health or support their diet aims (Roky et al., 2004), whereas a socially extrinsic religious person will fast in order to comply with religious and community norms. The measures of intrinsic, social extrinsic and personal extrinsic religiosity have been supported broadly in the literature in terms of reliability, validity and generalisability (Muhamad and Mizerski, 2013). The concepts of intrinsic and extrinsic religiosity have been applied successfully across several religious contexts, including Islamic (Ji and Ibrahim, 2007; Ghorbani et al., 2002), Judaism (Lauffer and Solomon, 2011) and Christianity (Chen and Tang, 2012; Potyru and Swinbergh, 2012). Accordingly, we adopt this conceptualisation to inform our explanatory model. We now turn our attention to conceptualising the relationship between these elements of religiosity and perceived risk.

**Religiosity and the perceived risk**

A central issue to shopper behaviour is choice (Taylor, 1974; Madzharov et al., 2015), and behaviour develops as a result of making that choice (Sekerka and Bagozzi, 2007). However, because the outcome of choice can only be experienced after the event, a shopper is forced to deal with the perceived risk of that choice (Cox, 1967; Yeung and Morris, 2006). The importance of perceived risk comes from its potential to explain differences in shopper attitudes towards a particular product, service or retailer (Mitchell and Harris, 2005). Research confirms that perceived risk affects shoppers’ decision making processes, post-purchase attitude, behaviour and relationship with the retailer (e.g. LaBarbera and Mazursky, 1983; Mitchell, 1992, 1999). Risk is considered a multidimensional construct (Stone and Gronhaug, 1993) comprising social risk, the risk that the selection of the object will negatively influence the perception of others about the purchaser; financial, the risk that the object used will not attain the best possible monetary gain for the consumer; physical, the risk that the usage of the product will result in a health hazard; performance, the risk that a product will not perform in the manner that will result in customer satisfaction; time, the risk that the shopper will be inconvenienced; and psychological, the risk that the selection of, or performance of, the product will have negative effects on the consumers’ peace of mind or self-perception (Garner, 1986).

The impact of these risk dimensions varies according to the shopping context confronted (Stone and Gronhaug, 1993). As such, researchers have often focused on the most relevant dimensions associated within context, rather than attempting to measure every dimension (Mitchell, 1999; Stone and Gronhaug, 1993), such as Delener (1990) who examined only the relationship between religious shoppers’ perceived performance risk of durable products. For example, a Catholic shopper purchasing birth control medicine in a pharmacy may only experience social risk, a concern about how friends and family may react, or psychological risk, emotional distress at realising the purchase and use of such products goes against Catholic doctrine. However, there appears no theoretical basis to associate financial, time and

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*J. Consumer Behav.*, **15**: 440–448 (2016)

DOI: 10.1002/cb
physical risk to this shoppers’ level of religiosity. So, although all shoppers, regardless of religious values, will encounter to some extent, all dimensions of risk (i.e. the product may fail, wasting money, or the product may cause harm), any attempt to associate religion with such dimensions requires a strong theoretical argument. We proffer that as there is no theoretical support to link all dimensions of risk to shoppers’ religious values, we intend to deal only with social and psychological risk, which appears logically related to levels of a shoppers’ religiosity.

We argue that as religion provides a means for constructing self-values and a social normative system for individuals (Wulff, 2010; Swimberge et al., 2011), it impacts on only psychological and social risk perceptions. Religiosity, within the General Theory of Marketing Ethics, affects the consumers’ ethical decision making process within a social environment and guides the development of personal characteristics and choices (Hunt and Vitell, 2006). The social environment designates the commitment between an individual and their community; hence, perceived social risk maybe greater when a shopper purchases a product or service that others within their society reject on religious grounds. The development of personal characteristics is informed by the individuals’ internal self-perception; hence, perceived psychological risk maybe greater when a shopper purchases a product or service that they accept is religiously questionable, which, in turn, creates internal emotional conflict. Accordingly, this conceptual paper focuses on conceptualising the impact of religiosity on the perceived social and psychological risk dimensions.

**Intrinsic religiosity and perceived psychological and social risk**

Intrinsically religious people tend to undertake a self-critique about whether they are demonstrating behaviour that is consistent, appropriate and aligned to their religious beliefs (Allport and Ross, 1967; Ji and Ibrahim, 2007). This means that highly intrinsically religious shoppers are more greatly exposed to psychological risks when purchasing new products which they deem as falling outside these norms. It has been widely accepted that intrinsically religious peoples’ self-concept is determined by their religious values (Putrevu and Swimberghek, 2012), and the measures of intrinsic religiosity (i.e. frequency of private prayers) are principal influences on the relationship between religiosity and psychological well-being (Chen and Tang, 2012; Maltby et al., 1999). Nevertheless, intrinsically religious people are not unaffected by social risk. The social environment may also have a strong impact on such shoppers, who tend to be more submissive, relative to their extrinsic counterparts (Muhamad and Mizerski, 2013; Wiebe and Fleck, 1980). As such, shoppers who consider themselves highly intrinsically religious will be more concerned about the perceived psychological risks of decision making when they are confronted with religiously questionable product, than the perceived social risks. Accordingly,

**P1** There is a positive association between intrinsic religiosity and psychological risk perception.

**P2a** There is a positive association between intrinsic religiosity and social risk perception.

**P2b** The association between intrinsic religiosity and social risk perception is weaker than the association between intrinsic religiosity and psychological risk.

**Extrinsic religiosity and perceived psychological and social risk**

Extrinsically religious people comply with religious ideals as a self-serving means to attain positive social outcomes and personal objectives (Allport and Ross, 1967; Ji and Ibrahim, 2007). People, who exhibit socially extrinsic religious behaviour, are motivated to demonstrate this behaviour in order to attain community acceptance, make acquaintances or increase social standing. In a retail context, such shoppers will avoid purchasing products that maybe considered dubious by their religious community in order to illustrate their solidarity with the group, rather than entrenched personal religious beliefs. Accordingly, the more extrinsically social a person is, the less likely they are to experience emotional internal emotional conflict associated with psychological risk (Chen and Tang, 2012). When a religiously questionable product appears, it is proposed that social extrinsic religiosity will have a positive impact on social risk perceptions but negative impact on psychological risk. In contrast, shoppers demonstrating personal extrinsic religious behaviour will make choices to accomplish personal goals, rather than social or internal (intrinsic) objectives (Chen and Tang, 2012). For example, a moderate Jew or Seventh-Day Adventist may abstain from work on the Sabbath (Saturday) for personal reasons, like a desire to spend more time with family or to engage in sporting endeavours, rather than for deeply, internal religious motivations or to meet religious community standards. As such, personally extrinsic religious shoppers will experience both social and psychological perceptions of risk as they make purchase decisions based on desired personal outcomes. Such choice behaviour creates emotional turmoil as the shopper makes choices based on promoting self, rather compliance with religious community expectations on internal beliefs. Therefore, it is proposed that personal extrinsic religiosity will have a positive impact on both psychological and social risk perceptions. Accordingly,

**P3** There is a negative association between social extrinsic religiosity and psychological risk perception.

**P4** There is a positive association between social extrinsic religiosity and social risk perception.

**P5** There is a positive association between personal extrinsic religiosity and psychological risk perception.

**P6** There is a positive association between personal extrinsic religiosity and social risk perception.

**The role of moral potency**

To date, researchers have failed completely to explain the role of religion on consumer behaviour because of the limited concentration on religious beliefs and norms (Vitell,
It has been reported that the capacity of religious beliefs and norms account for just 20% of the variation in explained behaviour (Hannah et al., 2011), suggesting that other factors remain at play. For example, although a practicing Catholic may initially abstain from purchasing contraceptive products in a supermarket, in a different context such as online, they may choose to adopt such products. So, publicly in a supermarket, there is a (social) risk of being seen by others, whereas online, there is not. Hence, it is argued the shoppers’ level of religiosity only explains some of the variance in risk, but not all. While a shopper with high levels of religiosity may demonstrate well-shaped norms and beliefs, it is unknown whether this shopper will consistently apply these values in all shopping situations, such as shopping with friends versus shopping alone or shopping online versus shopping in store. The question remains, do shoppers’ behaviours align with their accepted religious beliefs and norms?

In order to explore the gap between believing what is right (intentions) and doing what is right (behaviours), it is helpful to consider the theoretical concept of moral potency. First introduced by Hannah and Avolio (2010), it was initially postulated in organisational business literature to explain leadership behaviour and integrity. Moral potency is defined as a psychological state, marked by an experienced sense of ownership over the moral aspects of one’s environment (Hannah and Avolio, 2010). In other words, having the courage to make the right decisions act in a most appropriate way or remain aligned to a course of action, in the face of adversity or unpopularity. Moral potency is strengthened by efficacy beliefs in ones’ capabilities to act to achieve purpose and the courage to perform ethically in the face of diversity. Moral potency includes three components: moral ownership, moral efficacy and moral courage (Hannah and Avolio, 2010; Hannah et al., 2011). These components provide insights into the transference of beliefs into actions (Hannah et al., 2011). We employ the theoretical concept of moral potency to provide an explanation of changes in shopper behaviour when applied in the context of religiosity and risk.

We argue that moral potency may play a significant role in the relationship between religiosity and perceived risk, thus enabling retailers to effectively predict market behaviour for new products. We claim that while religion can provide an indication about ones’ beliefs regarding what is right or wrong, moral potency gives an indication about the strength of these beliefs. It is proposed that a high level of shopper moral potency enhances the impact of religiosity on perceived risk. Simply, a shopper who is both highly religious and demonstrates strong moral potency will not deviate from their entrenched choice behaviour across shopping contexts and will therefore experience greater perceived risk. Therefore, in addition to understanding the direct impact of a shoppers’ religiosity on perceived social and psychological risk, it is important to identify to what extent a shopper will allow their religiosity to effect their choice behaviour in store. The General Theory of Marketing Ethics affirms religiosity as an antecedent to the perceived consequences of any ethically questionable situation, which leads to evaluation, ethical judgments, intentions and finally behaviour (Hunt and Vitell, 2006). While a shopper may reference their religious beliefs in order to make the right choices, a gap between believing in what is right or wrong (intentions) and acting based on this belief (behaviour) remains unclear (e.g. Bebeau, 2002; Trevino and Youngblood, 1990). By addressing this gap, our work provides a better conceptualisation of the relationship between consumer religiosity and perceived social and psychological risk (Bebeau, 2002; Putrevu and Swimberghek, 2012). We now turn our attention to conceptualising the possible role of moral potency in the relationships between consumer religiosity and perceived social and psychological risk.

**Moral ownership**

A sense of responsibility is required to be formed before a person will commit to an action (Kohlberg and Candee, 1984). In a retail context, a shopper buying a lottery ticket will need to accept responsibility, in that the purchase decision being made may conflict with their religious values, prior to purchase. Moral ownership is the psychological responsibility an individual feels over their own actions (Hannah et al., 2011). A shopper with a high level of moral ownership will not purchase the lottery ticket, even if the probability of winning is high, based on their religious values, whereas a shopper with a low level of moral ownership is more likely to purchase. Individuals with a low level of moral ownership, or personal responsibility, tend to instead practice self-deception, misleading themselves into believing that their religious principles are still secure (Hannah and Avolio, 2010).

Intrinsic religiosity positively affects moral beliefs (e.g. Vitell et al., 2006; Vitell et al., 2007; Vitell et al., 2009). High levels of moral ownership result in stronger feelings of care and responsibility in aligning behaviour with those beliefs. Therefore, a high level of moral ownership can enhance the positive relationship between intrinsic religiosity and perceived psychological risk. In contrast, extrinsic religiosity negatively affects moral beliefs (Vitell et al., 2006; Vitell et al., 2007). Because low levels of moral ownership mean high possibility of practicing self-deception and not practicing ethical beliefs, high levels of moral ownership weaken the positive impact of social extrinsic religiosity and social risk perception.

**Moral efficacy**

Hannah et al. (2011) state that a person can have a strong belief and take ownership to act but still remain inactive because of a lack of confidence, thus lowering moral potency. This type of confidence is called moral efficacy and is defined as an individual’s belief in their capabilities to mobilise the motivation, cognitive resources, means and courses of action needed to attain performance, within a given moral domain, while persisting in the face of adversity (Hannah et al., 2011). It is argued that moral efficacy is comprised of two important dimensions (Luthans and Youssef, 2005): The first is magnitude, which is the level of difficulty of the required action in a given situation, and the second is strength, which is the degree that one is confident in their own ability to perform. These two dimensions show that
moral efficacy not only represents an assessment of individuals’ ability to act but also what they believe they can do with those abilities in a given situation (Hannah and Avolio, 2010). For example, a religious shopper may have abstained from purchasing alcohol, however in a situation involving strong peer pressure to buy, may lack the moral efficacy and purchase. Moreover, moral efficacy is highly influenced by ‘means efficacy’, which is an individual’s belief regarding the level to which external factors reduce or support their capability to perform in a given situation (Eden, 2001; Hannah and Avolio, 2010). This means that external factors such as friends, colleagues and sometimes the whole of society play important roles in forming an individual’s moral efficacy.

In terms of the relationship with consumer religiosity and perceived risk, previous research confirms that when an ethical situation involves external motivation, extrinsic religiosity will positively affect the ethical belief (Vitell et al., 2007). Because self-efficacy is highly affected by external factors, it is possible for it to strengthen the positive relationship between social and personal extrinsic religiosity and social risk perception. Also, because intrinsically religious people need moral guidance in their decision making; their high level of moral efficacy is likely to enhance the relationship between intrinsic religiosity and psychological and social perceived risk.

Moral courage
Moral courage is defined as a commitment to moral principles, an awareness of the risk involved in supporting those principles and a willingness to endure that risk (Kidder, 2003). Hannah and Avolio (2010) propose that although moral ownership and efficacy are important motivators, they are not an adequate basis for an individual to act. A religious shopper compelled by colleagues to buy a lottery ticket might feel highly responsible to act (not purchase) and believe that they have the capability to do so, yet may still purchase because of lack of moral courage. Moral courage enables an individual to be virtuous, regardless of the external factors that might affect their beliefs, such as being shunned or isolated by colleagues (Hannah and Avolio, 2010; Sekerka and Bagozzi, 2007). Therefore, it can be argued that high morally courageous shoppers are more compliant with their religious values than the less morally courageous shoppers, regardless of their personal desires or any social factors that may influence them. Consequently, high level of moral courage can positively moderate the relationship between consumers’ intrinsic religiosity and the psychological perceived risk of using new products. However, it can weaken the relationship between social extrinsic religiosity and social risk perception.

In summary, moral potency provides a person with the psychological resources that bridge intentions and behaviour (Hannah and Avolio, 2010; Hannah et al., 2011). Moral potency and its dimensions (ownership, efficacy, courage) can help in determining whether the level of a shoppers’ religiosity will lead the shopper to act in alignment with these religious norms or not. The proposition developed is as in the succeeding texts (Figure 1 and Table 1);

P7 Moral potency moderates the relationship between a shoppers’ religiosity and social and psychological risk perceptions.

CONTRIBUTIONS AND IMPLICATIONS

To the best of our knowledge, this is the first paper to conceptualise the complex relationships between shopper religiosity and perceived social and psychological risk, hence setting the scene for further inquiry. The consumer religiosity model presented in this paper has significant implications for both theorists and retail managers. While religion remains one of the major sources of shopper norms and attitudes (Abdelmajid and Hendaoui, 2012; Belwal and Belwal, 2014), the role of religion on shopper behaviour and particularly perceptions of risk require greater theoretical development (Vitell, 2009); accordingly, this paper offers several theoretical contributions. Firstly, we draw together
two streams of religiosity literature elucidating the complex relationships between the dimensions of religiosity and social and psychological risk. Secondly, we employ Hunt and Vitell’s (1993) General Theory of Marketing Ethics, in order to explain these relationships. Finally, this is the first paper to employ the theoretical concept of moral potency to explain how personal responsibility, confidence and courage will moderate the relationship between shopper religiosity and perceptions of social and psychological risk.

Our work also makes several practical contributions of importance to retail managers and marketers. This is the first study to develop a testable model that address the relationships between a shoppers’ level of religiosity and social and psychological risk and the moderating role of moral potency. As such, practitioners may choose to implement this model in order to better predict shopper adoption behaviour of new products and services. This would lead to operational efficiencies through effective market penetration strategies and marketing campaigns for new products. Further, the model allows for future empirical examinations across multiple shopping contexts, in store and online, products and services. Any future empirical application of this model should consider and contrast products and services that are considered religiously questionable or neutral across religions. For example, this model may explain how religiosity impacts on risk related to the retail banking services for Muslim consumers, but it may not reveal religiosity and risk perceptions related to the same category for Christian groups. Finally, the model may be used to allow retailers and brand manufacturers to estimate levels of demand for new products based on the extent of religiosity, moral potency and risk.

With the ever-increasing proliferation of global brands and the international retailers who sell these products, empirical research that tests our consumer religiosity model are now required. There are several directions that empirical research in this area could take, and these include field survey research using structural equation modelling and directed retail case studies across developed and developing economies where levels of religiosity may vary. Our model should be applied across different religious groups and a cross-cultural examination is vital to improve the generalisation and application (Ramly et al., 2008), hence a comparative study across religions and regions. Further, researchers may examine differences in levels of moral potency and risk among highly religious shoppers living in secular societies, versus highly religious shoppers living in devout societies. Finally, this work may also lead to longitudinal research, such as an examination on whether moral potency and risk reduce over time.

### REFERENCES


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Social exclusion and choice: The moderating effect of power state

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ABSTRACT

When encountering two product options in which one has been chosen by minority and the other by majority, what will influence consumers to make a choice? Although much research has solved this question, this research will address these issues from different perspectives by examining the interplay of power state and social exclusion on consumer choice. Drawing on power approach/inhibition and distinctive theories, we propose that the individuals in low power state prefer more distinctive products when they are in social exclusion than in social inclusion. In contrast, the individuals in high power state prefer less distinctive products when they are in social exclusion than in social inclusion. Two studies were conducted to confirm the hypotheses. Specifically, study 1 confirms our hypotheses by manipulating social exclusion and power state. And study 2 further confirms our hypotheses through using different experimental stimuli and a behavioral measure of choice. The theoretical and practical implications of this research are provided.

INTRODUCTION

When encountering the two product options in which one has been chosen by minority and the other by majority, what will influence consumers to make a choice? And how? The answer to these questions is a very important thing in consumers’ daily shopping life, because the others’ opinions or behavior is one of the most pervasive determinants of consumer choice, and needing to have an opinion could change consumers’ preference of product options (Kokkoris and Kuehnen, 2015). This article will address this issue by taking social exclusion and power as important factors on consumer choice.

As previously mentioned, consumers’ product choice reflects the question about whether conformity or non-conformity. Conformity means that the option is good when the majority has chosen. In contrast, dissension or non-conformity means that the option is good when the minority has chosen. Conformity and non-conformity are tactics that have always been used in marketing (Hoyer and MacInnis, 2006). And previous research provides that social exclusion could lead to a behavior consistent with others (i.e., conformity). For example, social exclusion motivates people to have selective attention to signs of acceptance, which leads them to follow the crowd (Maner et al., 2007; DeWall et al., 2009). And social exclusion causes people to do the same way of consumption as others (Mead et al., 2011). By contrast, other research proposed that social exclusion may result in a behavior that varies from others (i.e., dissension); for example, social exclusion impaired the capacity for empathic understanding of others, which causes individuals to reduce help or cooperate with others (Twenge et al., 2007). Recently, Wan et al. (2014) found that social exclusion could lead to the tendency to conform (i.e., preferring distinctive products), especially when social exclusion is stable. But the Wan et al. research is concerned about social exclusion itself only, not other individuals’ psychological factor. Thus, we will fill this gap by considering a very important psychological factor (i.e., power state) as the moderating variable between social exclusion and consumer choice.

In this article, we propose that the individuals in low power state prefer more distinctive products when they are in social exclusion than in social inclusion. By contrast, the individuals in high power state prefer less distinctive products when they are in social exclusion than in social inclusion. Drawing on power approach/inhibition theory (Keltner et al., 2003) and distinctiveness theory (Brewer, 1991), when individuals in low power state find themselves in social exclusion than in social inclusion, they are more inclined to think that they are different from others and thus perceive more uniqueness. And because people view possessions as extensions of the self and use them to express their identity (Belk, 1987), distinctive products can signal uniqueness (Ames and Iyengar, 2005). Therefore, these individuals prefer the distinctive products.

And as affirmed by power approach/inhibition theory, powerful individuals display positive actions as well as emotional and behavioral trends. And people in high power state tend to pay less attention to the feelings of others (Rucker et al., 2012) and are less influenced by the people around them (Mourali and Zhiyong, 2013). Therefore, drawing on distinctiveness theory, the individuals in high power state is self-affirmed, have high self-concept (Chatterjee et al., 2013), will perceive uniqueness when they are in social inclusion, and, according to a previous state, will prefer distinct products. In contrast, the people in high power state tend to socially connect more with others when they are in social exclusion than in social inclusion (Narayanan et al., 2013); therefore, they feel the need to be consistent with others. As such, these individuals do not opt for the distinctive products.

The present research makes several contributions. First, this article contributes to the literature on social exclusion in the field of consumer behavior by revealing power as a boundary condition between social exclusion and consumer
choice and, meanwhile, supplements the Wan et al. (2014) research, which is just concerned with social exclusion itself. Second, this article suggests that the individuals with low power state in social exclusion or with high power state in social inclusion prefer distinctive products, which adds to the growing body of literature on individual power in the field of consumer behavior and responds to the Rucker et al. (2012) call for more research to understand how power influences consumer behavior. Finally, the present research extends the understanding of uniqueness seeking (e.g., Brewer, 1991; Xu et al., 2012) by identifying that a psychological factor (i.e., power state) could trigger a unique need in this case of experiencing social exclusion and leads them to seek differentiation by selecting distinctive products.

THEORY DEVELOPMENT AND HYPOTHESIS
Social exclusion and behavioral consequences
Social exclusion is a condition of being isolated, far from, or excluded by another person or group of people (Williams et al., 2000). Such condition commonly occurs in daily life (e.g., social rejection or interpersonal rejection, failure to be accepted in an organization, and job application rejection) (Loveland et al., 2010; Mead et al., 2011; Dommer et al., 2013; Duclos et al., 2013; Wan et al., 2014). Considerable research has demonstrated that social exclusion could lead to different behaviors, such as being harmful to the physical and mental health of others (DeWall and Baumeister, 2006), destroying one’s self-regulation ability (Baumeister et al., 2005), hindering interpersonal belonging (Baumeister et al., 2007), having stronger impact in reducing long run smoking intention (Martin and Kamins, 2010), having a strong preference toward nostalgic products (Loveland et al., 2010), using the same brand as others to make themselves similar to the reference group (Dommer et al., 2013), opting for risks of financial opportunities and potential earnings (Duclos et al., 2013), and becoming a conspicuous consumer (Lee and Shrum, 2012).

In addition, social exclusion could induce individuals to use different approaches to cope with negative rejection. On the one hand, the theory of social monitoring system indicates that social exclusion could hinder one’s sense of belonging, forcing this person to pay attention to the clues that could allow him or her to regain his or her belongingness to the society or a group (Pickett et al., 2004). Consistent with this view, substantial research suggests that, on the one hand, individuals who are in social exclusion are more likely to follow the advice of others than that of who are socially accepted (Williams et al., 2000). Such socially rejected individuals are also sensitive to social acceptance (DeWall et al., 2009), interested in using additional resources to build new relationships (Maner et al., 2007), and spend huge amount of money to buy products that symbolize group membership and conform to the rules of a group (Mead et al., 2011). On the other hand, some research clarifies that social exclusion could increase one’s anti-social behavior and counteract the search for consistency. For example, when individuals are in social exclusion, they would have more negative evaluations of a job and give others more offensive noise compared with those in social inclusion who are considered aggressive (Twenge et al., 2001). In another study, social exclusion has been found to be capable of reducing one’s helping behavior (e.g., donate less to those in need and cooperate less with others) (Twenge et al., 2007).

The aforementioned research findings suggest that the individuals who are in social exclusion may either conform to or deviate from the behaviors of others. Wan et al. (2014) identified that when consumers have been rejected in different ways (e.g., stability exclusion), they would deviate from others (i.e., prefer the distinctive products). However, these researchers failed to consider the individual psychological factor. Therefore, we complement the research of Wan et al. (2014) by considering a psychological factor (i.e., power state) as the moderating variable between social exclusion and consumer choice in this research. Based on the theory of power approach/inhibition (Keltner et al., 2003), distinctiveness theory (Brewer, 1991), and the need for uniqueness (NFU) theory (Snyder and Fromkin, 1977), we posit that power state and social exclusion interact to affect consumer choice.

Social exclusion and looking for uniqueness
When individuals are rejected or ignored by others, it often means they are dissimilar or disagree with others. Brewer (1991) and Snyder and Fromkin (1977) asserted that individuals deal with the situation (i.e., being rejected) in two possibilities. One possibility is that this group of people ensures that they are consistent with others (i.e., conformity). Another possibility is that these people tend to be different as a result of their own uniqueness (e.g., “I have been rejected, so I seem to be different from others”), and they seek appropriate difference or uniqueness from others. In addition, when individuals are excluded from the social status because they do not like the products that adhere to their own identity, they go for different or distinctive products from others (White et al., 2013). Berger and Heath (2007) demonstrated that the individuals who are in social exclusion are often highly motivated to showcase their uniqueness when doing so is perceived as socially profitable.

In addition, in our daily life, people always encounter situational factors or psychological characteristics that make them be susceptible to the influence of others or encourage them to be more focused on self-perception—a kind of power state that commonly arises (Rucker et al., 2012). When individuals in different power states are affected by others, they would have varied responses toward specific situations. Therefore, in the current study, we examine whether the individuals of varying power states would have different preferences of distinctive products when they are socially excluded.

Power is one’s ability to control other people, resources, and results (Keltner et al., 2003), and it is the most common psychological force in the social environment. Each individual encounters a different sense of internal power (Anderson and Berdahl, 2002) through the variety of temporary situations they encounter. For example, an airline executive that
orders or cancels a flight makes the passengers of this trip feel powerless. By contrast, a manager that assigns a job/task to an employee makes the former feel a sense of power. According to Fast et al. (2009), power state is the psychological result of the influence of power (e.g., perception of being in control, perception of being powerful, and the sense of competition). High power state refers to the condition in which the individuals are in a high position and feel important (e.g., feel powerful). People in high power state tend to pay less attention to the feelings of others (Rucker et al., 2012) and are less influenced by the people around them (Mourali and Zhiyong, 2013). Contrarily, low power state pertains to the situation in which people place themselves in a low position and feel less important (e.g., feel powerless). The individuals with the low power status tend to regard the feelings of other people, and they are easily influenced by others.

As we mentioned previously, whether excluded individuals choose to conform or deviate depends on the power states. Power approach/inhibition theory (Keltner et al., 2003) posits that the individuals in low power state inhibit processing (passive treatment), show passive emotional and behavioral tendency related to escaping, and regard the feelings of others. Thus, these individuals are sensitive to rejection, take passive actions, go through negative emotions, and feel powerless when they are in social exclusion. Such a circumstance forces this group of people to intensify being inconsistent with the majority of people. As a result, when individuals in low power state find themselves in social exclusion, they are inclined to think that they are more different from others than in social inclusion, which will provide for a sense of distinctiveness for them and thus look for uniqueness for themselves (Brewer, 1991). And because people view possessions as extensions of the self and use them to express their identity (Belk, 1987), the products that were chosen by the minority can signal uniqueness (Ames and Iyengar, 2005). Therefore, these individuals with low power state prefer more distinctive products when they are in social exclusion than inclusion.

And as affirmed by power approach/inhibition theory, powerful individuals display positive actions as well as emotional and behavioral trends (e.g., possess strong positive emotions, perceive a sense of self-control, and feel complete). Thus, the individuals in high power state are self-affirmed, have high self-concept, and are different from others (Chatterjee et al., 2013) when they are in social inclusion or control condition than in social exclusion, and individuals with high power state always select fewer choices than those with low power state (Inesi et al., 2011). As we discussed previously, when these individuals think that they are different from others, they will look for uniqueness and thus prefer the distinctive products. In contrast, the people in high power state tend to socially connect more with others when they are in social exclusion (Narayanan et al., 2013); therefore, they feel the need to be consistent with others. As such, these individuals do not opt for the distinctive products. Formally, we propose the following.

**Hypothesis 1:** Power state and social exclusion interact to affect consumer choice. Specifically, compared with those in social inclusion, the individuals with low power state in social exclusion will prefer more the distinctive products. By contrast, the individuals in high power state will prefer less the distinctive products when they are in social exclusion than in social inclusion.

The finding of Snyder and Fromkin (1980) suggests that when people find that they are different from others, they will attempt to derive intrinsic satisfaction by perceiving uniqueness and separable from the majority, which is referred to as “need for uniqueness,” and they also suggest that the individuals with high NFU are most likely to establish a sense of specialness through exhibiting the particular behaviors such as acquiring the distinctive products (Snyder, 1992). Therefore, combining to what we discussed previously, we formally propose the second hypothesis.

**Hypothesis 2:** Perceived uniqueness plays the intermediary role in the interaction effect of social exclusion and power state on the choice of distinctive products. Specifically, perceived uniqueness mediates the effect of the individuals with (a) low power state in social exclusion and (b) high power state in social inclusion on distinctive choice.

Two studies were conducted to test our hypotheses. Study 1 examined how power state interacts with social exclusion to affect selecting distinctive option (Hypothesis 1) and perceived uniqueness plays the intermediary role in this interaction effect (Hypothesis 2). And study 2 further confirms the two hypotheses in a different manner, that is, through different manipulations of social exclusion and measurement of power state through the sense of power scale.

**STUDY 1**

Study 1 aimed to confirm our Hypotheses. Hypothesis 1 assumes that the individuals in low power state prefer more distinctive products when they are in social exclusion than in social inclusion. Contrarily, the individuals in high power state prefer less distinctive products when they are in social exclusion than in social inclusion. Hypothesis 2 supposes that perceived uniqueness plays the intermediary role in the interaction effects of social exclusion and power state on choosing distinctive products. To effectively conduct the study, we asked the participants to recall an event that could manipulate their power state (Rucker et al., 2011) and social exclusion through social media (NfpSynergy, 2009). We then adopted the method introduced by Lynn and Harris (1997) to measure the unique needs of the participants.

**Participants, design, and procedure**

A total of 211 undergraduate students (of which 82 are female) from a famous university in central China participated in this study in exchange of a gift worth 10 yuan. The participants were randomly assigned to the conditions of a 2 (social exclusion: exclusion vs. inclusion)×2 (power state: high vs. low) between-subjects design.
Manipulation of social exclusion

We used the method proposed by Wan et al. (2014) to manipulate the state of social exclusion. This method allowed the participants to think about making friends in an online social network scenario, which manipulated their social exclusion. The participants were asked to read a story about making friends in the network and were made to play the role, which reflected the reality. The specific story goes like this:

Suppose you love surfing the Internet and using social networks (e.g., Weibo, QQ, and Weixin) to make friends. Eventually, you found three like-minded people, and you admired them. Hence, you were eager to make friends with them, and you sent a self-introduction and friend requests to them. After a few days, you received their response.

In social exclusion, the three people all refused the request, whereas they all accepted it in social inclusion. After reading the story, the participants were instructed to describe what they felt about what happened. This task strengthened the experimental manipulation (Rucker et al., 2011). In the manipulation check, we asked the participants what they felt about being rejected or neglected in the situation (1 = strongly disagree, 7 = strongly agree (Williams et al., 2000)) and to indicate their mood on the item of “feeling pleasant” (1 = strongly disagree, 7 = strongly agree).

Manipulation of power state

After controlling for the social exclusion of the participants, we adopted the approach proposed by Rucker et al. (2011) to manipulate the power state. In this case, the participants were informed that they were participating in a study of memory, and their task was to recall and write down a special situation in which they could control another person (i.e., a high power state). The participants were given 15 minutes to recall the situation carefully and were then asked to answer the question on manipulation check. In particular, the participants were requested to rate how they felt when they could influence the result of the event they recalled (1 = not completely influenced, 7 = completely influenced).

Measurement of perceived uniqueness

After the participants completed the manipulation of social exclusion and power state, they were asked to report their perceived uniqueness prior to task choosing through three items adopted from the self-attributed NFU scale (Lynn and Harris, 1997). These items included the following: “Being distinctive is important to me” (1 = not at all, 9 = extremely); “I intentionally do things to make myself different from those around me” (1 = never, 9 = always); and “I have a need for uniqueness” (1 = weak, 9 = very strong).

Choice task

In the final part of study 1, the participants were asked to complete a survey about vacation spots. The participants were informed that a travel agency was promoting two vacation spots (i.e., Bali and Phuket) and was interested in their opinions. They then read brief descriptions of the two islands and were told that a recent survey among students from the same university showed that 19 percent of them preferred Phuket (distinctive option), whereas 81 percent preferred Bali. Subsequently, the participants indicated their choice between the two options. A pretest among 41 participants from the same pool rated Bali and Phuket as equally attractive on a seven-point scale (MBali = 4.90 vs. MPhuket = 4.52, t(39) = −1.032, p > 0.3). After they indicated their choices, the participants were debriefed about the study, paid, and thanked.

Results

Manipulation check

We checked the power state response of the participants. As expected, the participants in high (vs. low) power state felt a high influence on the results (Mhigh = 4.91 vs. Mlow = 4.16, t(209) = 3.948, p < 0.001). Furthermore, the participants felt rejected when their request was refused (Mrejection = 4.69, Mrejection = 3.11, t(209) = 6.623, p < 0.001). These results confirmed that the manipulation was successful.

Choice of distinctive option

We coded the choice of vacation spot as 1 if the participant chose the distinctive choice (Phuket) and 0 otherwise (Bali). We use model 1 of Hayes (2013) to test our interact effect by taking the choice of vacation spot as dependent variable, social exclusion as independent variable, and power state as moderating variable. The result showed a significant simple effect of social exclusion (b = 1.393, Z = 3.355, p < 0.05) and significant simple effect of power state (b = 0.849, Z = 2.084, p < 0.05), importantly, a significant interaction effect (b = −2.36, Z = −4.043, p < 0.001). Supporting Hypothesis 1, the pairwise comparison indicated that the participants who were in low power state tended to select the distinctive option when they were excluded than included (64% vs. 31%; Z = 3.355, p < 0.01).
likely to choose the distinctive option when they were excluded (28%) than included (51%; $Z = -2.357, p < 0.02$) (Figure 1).

**Mediation analysis**
We conducted a bootstrapping analysis that generated a sample size of 5000 (Hayes (2013); model 8) to test the mediating role of perceived uniqueness in determining the interaction effect of social exclusion and power state on choosing distinctive option. And the result supports Hypothesis 2, which revealed that the 95 percent confidence interval (CI) for the total indirect effect was significant and excluded zero ($index = -2.021, 95% CI: -3.179, -1.088$), which means that perceiving uniqueness plays the intermediary role in the interaction effect of social exclusion and power state on the choice of distinctive products, and specifically, the 95 percent CI for the indirect effect of low power state was significant and excluded zero ($B = 1.170, 95% CI: 0.548, 1.950$) and that of high power was significant and excluded zero too ($B = -0.851, 95% CI: -1.594, -0.230$), which suggests that perceiving uniqueness mediates the effect of individuals with low power state in social exclusion (H2a) or those with high power state in social inclusion (H2b) on choice of distinctive products. The direct interact effect of social exclusion and power state on distinctive choice was no longer nonsignificant ($b = -1.204, Z = -1.717, p > 0.086$; Figure 2), which further provided the evidence of mediating effect of perceived uniqueness.

**Discussion**
Study 1 provided preliminary evidence that when individuals in low power state are socially excluded, or those in high power state are socially included, they would choose the distinctive option (Phuket Island). Contrarily, when individuals in low power state are socially included, or those in high power state are socially excluded, they tend to choose the popular option (Bali Island). This finding supports Hypothesis 1 that when the participants were in low power state, those who were rejected or those in high power state who were accepted in online social networking site were more likely to choose the distinctive option than those in low power state who were accepted or those in high power state who were rejected. The results in experiment 1 also support our proposed mechanism. The perceived uniqueness of the participants mediated the interactive effects.

**STUDY 2**
The purpose of study 2 further confirms our hypotheses that social exclusion and power state interact to affect consumer choice and perceived uniqueness plays a mediating effect. Anderson and Berdahl (2002) suggested that the sense of power could be derived from one’s own chronically idiosyncrasy that experiences accumulated from their life and can be a comparatively stable inner state. Rather than manipulating the sense of power, study 2 measures power state through the sense of power scale (Anderson and Galinsky, 2006). In addition, study 2 estimated the perceived uniqueness after the participants completed the decision making to further validate the proposed mechanism. Finally, study 2 used nonbinary choice tasks that asked participants to indicate their preference among three options (Berger and Heath, 2007) rather than two options as used in study 1.

**Participants, design, and procedure**
A total of 74 undergraduate students (of which 38 are female) from a general university in central China participated in this
study for curriculum course. The participants were randomly assigned to the conditions of a 2 (social exclusion: exclusion vs. inclusion) × 2 (power status: high vs. low) mix design, in which power is mixed designed and social exclusion is between designed.

**Manipulation of social exclusion**
We manipulated the state of social exclusion in a scenario about membership application to a brand community. This particular scenario was used by Wan et al. (2014) in their study. Here, the participants were asked to read a story carefully and imagine themselves into the story by considering it as their own experience. The story is,

*They (the participants) were eager to join the IWE Club, a brand community for one premium foreign company that functions like a family for customers, and thus, they submitted their applications for membership in the IWE Club.*

The difference of the state of social exclusion refers to the different outcomes of their request for the brand membership. In the social exclusion condition, the IWE Club informed the people that their applications were rejected after a few days. In the social inclusion condition, the IWE Club informed the individuals that their applications were accepted. The participants were then asked to describe what they felt about the story if they had this experience (Rucker et al., 2011) through a seven-point scale (1 = strongly disagree, 7 = strongly agree) for manipulation check.

**Manipulation of the power state**
We measured the intrinsic power state of the participants using the sense of power scale, which was proposed by Anderson and Galinsky (2006). Previous studies have confirmed the high internal consistency of this scale (α = 0.82, M = 4.26, SD = 0.81).

**Choice task**
The participants were then asked to select from three kinds of T-shirt (Berger and Heath, 2007). Prior to their selection, the participants were allowed to view the preference of previous customers in the online store (i.e., 41% chose the A style, 13% chose the B style, and 46% chose the C style; compared with the A and C styles, the B style was the distinctive style). A pretest among 35 participants from the same pool rated the kinds of T-shirt as equally attractive on a seven-point scale (M_A = 4.06 vs. M_B = 3.86 vs. M_C = 4.14; all p > 0.23). The participants subsequently reported their perceived uniqueness on the same items used in study 1 (Lynn and Harris, 1997). Finally, the participants were debriefed, paid, and thanked for their participation.

**Results**
**Manipulation check**
As expected, the participants felt rejected when their request was refused (M_exclusion = 4.65, M_inclusion = 2.19, t (72) = 7.426, p < 0.001), confirming that the manipulation was successful.

**Choice of distinctive option**
The choice of the T-shirt style was coded as 1 if the participants chose the distinctive choice (B style), and 0 otherwise (A or C style). Similar to study 1, we used model 1 of Hayes (2013) to test our interactive effect by taking the choice of vacation spot as dependent variable, social exclusion as independent variable, and power state as moderating variable. The result showed a significant simple effect of social exclusion (b = 9.865, Z = 2.738, p < 0.01) and of power state (b = 1.213, Z = 2.044, p < 0.05), and, importantly, a significant interaction effect (b = −2.732, Z = −2.757, p < 0.01; Figure 3). Supporting Hypothesis 1, the spotlight analysis results showed that the participants who were in low power state (M_low = 3.019) (the average power composite index minus a standard deviation) were more likely to choose the distinctive choice when they were excluded than included (b = 1.617, Z = 2.115, p < 0.05). When the participants were in high power state (M_high = 4.208) (the average composite power index plus a standard deviation), they were less likely to choose the distinctive choice when they were excluded than included (b = −1.632; Z = −2.083, p < 0.05).

**Mediation analysis**
Similar to study 1, we conducted a bootstrapping analysis in study 2 to test the mediating role of perceived uniqueness in determining the interaction effect of social exclusion and power state on distinctive choice. Correspondingly, we generated a sample size of 5000 (Hayes (2013); model 8). The result of the analysis supports Hypothesis 2. Specifically, the result demonstrates that the 95 percent CI for the total indirect effect was significant and excluded zero (index = −0.873, 95% CI: −2.747, −0.020), which means that perceiving uniqueness plays the intermediary role in the interaction effect of social exclusion and power state on the choice of distinctive products, and the spotlight analysis reveals that the 95 percent CI for the indirect effect of low power state (the average power composite index minus a standard deviation) was significant and excluded zero (B = 0.694, 95% CI: 0.015, 2.106), which suggests that perceived uniqueness mediates the effect of individuals with low power state in social exclusion on choice of distinctive products (H2a). In addition, the result is different from that of study 1, which does not support H2b that perceiving uniqueness was not a mediator between high power state in social inclusion and choice because the 95 percent CI
for the indirect effect of high power (the average power composite index plus a standard deviation) was not significant and included zero too ($B = -1.379$, 95% CI: $-1.613$, 0.095). The direct interact effect of social exclusion and power state on distinctive choice was no longer nonsignificant ($b = -2.055$, $Z = -1.934$, $p > 0.05$; Figure 4), which further provided the evidence of mediation.

Discussion

Study 2 further confirmed the findings of study 1 by manipulating social exclusion in a brand-community context and measuring the sense of power. The participants who are in the low power state who experienced exclusion in their brand-community membership applications were more likely to choose the distinctive option than the included ones, and those who are in the high power state who experienced exclusion in their brand-community membership applications were less likely to choose the distinctive option than the included ones, which supports our Hypothesis 1. Moreover, it supported Hypothesis 2a that the participants’ perceived uniqueness mediated the effect of low power state in social exclusion on choice. But it is different from study 1 in that the result does not support Hypothesis 2b that the participants’ perceived uniqueness mediated the effect of high power state in social inclusion on choice, in which other mechanisms between the individuals with inner high power in social inclusion and distinctive choice may exist. In particular, our study 2 was conducted in China, as we knew that Chinese people always feel high power distance and feel low power state (Farh et al., 2007). Therefore, when we direct to measure the sense of power, which could not distinguish high power state from low power state in the chronically power state, it may cause our result to not support H2b.

GENERAL DISCUSSION

When people are in different power states (high vs. low) and are socially rejected, they would have different preferences for the consumption choice. In particular, the individuals in low power state prefer more distinctive products because of their perceived uniqueness when they are in social exclusion than in social inclusion. By contrast, according to the finding of Narayanan et al. (2013), the individuals in high power state tend to socially connect more with others when they are in social exclusion than in social inclusion, which causes them to feel the need to be consistent with others. Thus, they less prefer the distinctive products than those with high power state who perceive uniqueness in social inclusion. In this article, two studies were conducted to verify our hypotheses. Study 1 confirms that the individuals with low power state in social exclusion and with high power state in social inclusion prefer more distinctive products than those with low power state in social inclusion and with high power state in social inclusion. And perceived uniqueness plays the intermediary role in the interaction effect of social exclusion and power state on the choice of distinctive products. And study 2 further confirms these hypotheses in a different manner from study 1, especially, measuring the power state with the sense of power scale (Anderson and Galinsky, 2006) and using a nonbinary choice task to measure our dependent variable.

Theoretical implications and practical implications

There are several aspects of theoretical implications in the present research. First, this article adds to the literature on social exclusion in the field of consumer behavior by revealing power as a boundary condition between social exclusion and consumer choice. Several research has focused on the theme of social exclusion in the field of consumer behavior, such as social exclusion, which could lead to select the brand of the same group (Dommer et al., 2013), conspicuous consumption (Lee and Shrum, 2012), select products that conform to the group (Mead et al., 2011), and desire for high-quality brands (Ward and Dahl, 2014). Whereas this research suggests social exclusion and power state interact to affect consumer choice, specifically, low power state individuals prefer a more distinctive option when they are in social exclusion than in social inclusion and meanwhile supplements the Wan et al. (2014) research, which is just concerned with social exclusion itself between social exclusion and choice. Second, as the results of our studies show, individuals who are in different power states (high vs. low) and are socially rejected would have different preferences for the distinctive products, which extends the research on power in the field of consumer behavior and responds to the Rucker et al. (2012) call for more research to understand how power

![Figure 4. Mediation analysis: perceived uniqueness as a mediator (study 2).](image-url)
influences consumer behavior. Now there has existed some research suggesting that power state has been a very important moderating variable in the field of consumer behavior research; for example, the result of Kim and McGill (2011) suggested that power moderates the effect of anthropomorphism on consumer risk perceptions. Liyin et al. (2014) find that power state is a very important moderator between comparative references and consumer perceptions of price unfairness. And the level of certainty and power interacts to resist social influence by discounting others’ opinions (Mourali and Zhiyong, 2013). In addition, the varying power states of individuals could influence corporate performance (Eric Boyd et al., 2010) and goal pursuit (Min and Kim, 2013) and selects more or less choice (Inesi et al., 2011). Thus, our research demonstrates that power state is a very important moderator between social exclusion and consumer choice and adds to the literature about power in the field of consumer behavior.

Finally, this research extends the understanding of uniqueness seeking and its consequence on consumer choice. Previous research suggests that there existed many factors influence uniqueness seeking, such as characteristics of individual differences (Snyder and Fromkin, 1977), comfortable ambient temperatures (Huang et al., 2014a, 2014b), spatial confinement (Levav and Zhu, 2009), individuals’ physical closeness to one another (Xu et al., 2012), one’s prior positive interaction with the group in a public context (Papyrina, 2012), the geometrical shape of a chair arrangement (Zhu and Argo, 2013), and incidental pride (Huang et al., 2014a, 2014b). In the present research, we suggest that social exclusion and power state interact to affect perceiving uniqueness; specifically, individuals with low power state will perceive more uniqueness when they were in social exclusion than in social inclusion and then influence choice.

Apart from its theoretical implications, our research also provides practical implications. On the one hand, the result of our research shows that the individuals with low power state in social exclusion and those with high power state in social inclusion prefer distinctive products, which may serve as a good guidance for marketing practitioners to highlight the distinctive feature of their products to meet these consumer need, such as to the consumer of high power state, which could manipulate (e.g., “you are the boss”), highlighting that the distinctive feature of the products could be an effective sales process and the same to those with low power state in social exclusion, which could manipulate by a limiting condition (e.g., membership exclusion). On the other hand, our research indicates that marketing practitioners may want to consider ways to evoke a different state of power (i.e., low vs. high) and social exclusion to manage sales of different products (popular or distinctive). For example, as we know that Chinese people always feel high power distance and low power state (Farh et al., 2007), social exclusion should be emphasized (e.g., circle exclusion is emphasized) to improve the sales of distinctive products in China.

Limitations and future research
Although we have verified our hypotheses through two studies, this research still has limitations. First, the study did not consider the cultural differences between the East and the West. Oriental culture places emphasis on collectivism, whereas the Western culture focuses on individualism, which may result in individuals responding to the same stimulus in different ways (Triandis et al., 1988). Thus, future research should also investigate cultural differences of social exclusion in consumer choice. Second, Rucker et al. (2014) asserted that power could be divided into the experience of power and the expectation of power, and the legitimacy of power could influence our behavior (e.g., conformity) (Hayes and Goldstein, 2015). Given that we failed to consider this aspect, this should be examined in a future research. Third, we do not consider about the type of products in this article, as we know that consumers are apt to be affected by different types of product when they make a consumption decision, such as branded and non-branded products (Ubilava et al., 2011), and hedonic and utilitarian products (Roy and Ng, 2012); thus, the future research needs to focus on the type of products in the situation of social exclusion on choice. Finally, our research demonstrated the mechanism (i.e., perceived uniqueness) of the interaction of social exclusion and power state on consumer choice, but we find that perceived uniqueness does not mediate the effect of high power in social inclusion on distinctive choice in study 2 (i.e., H2b was not supported); thus, other existing mechanisms may occur as well (e.g., self-esteem and belongingness). Future research should verify the occurrence of such mechanisms.

ACKNOWLEDGEMENTS
This research was supported by the National Science Foundation of China (grant nos. 71372132 and 71302093). The authors thank Prof. Zhilin Yang of City University of Hong Kong and Prof. V. Kumar for their comments and advice, and Jun Yan, You Li, Jinshan Wang, and Donghong Zhu for their help in data collection.

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Choice confidence in the webrooming purchase process: The impact of online positive reviews and the motivation to touch

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ABSTRACT

The webrooming purchase process (i.e. searching for information online and then buying the product offline) is the most extended cross-channel shopping behaviour. With the aim of offering a better understanding of this behaviour, this research relies on information processing and uncertainty reduction theories to propose that consumers use the online information to make the offline purchase with a higher degree of confidence. We examine the effects of a previous online interaction with a product on the preferences and decision at the physical store, as well as on the outcomes of the experience. In this path to purchase, we analyse how positive online customer reviews, as a specific form of electronic word of mouth, help the consumer to improve their experience, given their great potential to reduce the consumer’s uncertainty in a purchase situation. In addition, the role of the motivation to touch the product is examined. The results of two studies show that the combination of an online search and an offline purchase improves the consumers’ purchase experience in pre-choice variables (i.e. purchase intentions), choice and post-choice variables (i.e. search-process satisfaction and choice confidence). Moreover, reading a positive online customer review influences choice confidence, and all the variables considered in the research when it is received at the physical store. Finally, the results stress the importance of the motivation to touch when studying multichannel shopping behaviour, given its direct and moderating effects on the webrooming purchase process. Implications for theory and practice are discussed. Copyright © 2016 John Wiley & Sons, Ltd.

INTRODUCTION

In their purchase process, consumers can use different combinations of online and physical channels to search for information about products, corroborate this information and make the purchase. Cross-channel behaviours are changing the nature of the consumer–retailer relationships. In this line, online users are increasingly carrying out showrooming (i.e. visiting physical stores to check out products and then buy them online). Sevitt and Samuel (2013) showed that 26% of American social media users practised showrooming. In Europe, the last Google Consumer Barometer (2015) indicates that 12% of purchases in electronics (i.e. laptop/tablet and mobile phone) and 8% of clothing and footwear purchases are carried out by showrooming processes. However, reverse showrooming or webrooming (i.e. research products online, then buy them offline) is the most extended cross-channel behaviour. In fact, 41% of American social media users carry out regularly webrooming (Sevitt and Samuel, 2013); 35% and 48% of European consumers of electronics and clothing and footwear, respectively, research products online before purchasing them offline (Google Consumer Barometer, 2015). According to Forrester Research (2014), webrooming sales are currently five times larger than online sales, and by 2018, the 44% of all in-store purchases will be influenced by the Web. Thus, the number of webroomers clearly surpasses showroomers. The influence of online information on offline purchases is expected to be especially significant because of the development of mobile technologies. These days, consumers can use their smartphones to access online product information during their experience at the physical store (Van Bruggen et al., 2010).

The study of this cross-channel behaviour is especially noteworthy from both the academic and managerial perspectives. Cross-channel consumers demand seamless and unique experiences across different channels (Chatterjee, 2010; Heitz-Spahn, 2013). Moreover, the notion of Multichannel Customer Management (Neslin et al., 2006) highlights that the consumer represents the starting point for the development of effective multichannel marketing strategies. The challenge for multi-channel companies is to avoid free-riding behaviours (i.e. search for product information in one company’s channel and buy from a different company’s channel; Van Baal and Dach, 2005) by integrating channels to retain consumers along the entire purchase process (Chiu et al., 2011; Herhausen et al., 2015). However, there is a lack of research on cross-channel behaviour at the individual level, given the difficulties to track and combine data from consumers using different channels within the same purchase process (Pauwels et al., 2011).

The main goal of this research is to examine the consumer’s webrooming search experience and decision. We rely on information processing and uncertainty reduction theories to propose that consumers search for product information on the Internet and then go to the store to make the purchase, in order to reduce the uncertainty associated to the purchase and make their choice with a high degree of confidence. Among the different motives for cross-channel shopping, such as convenience, reduced prices or recreation (Balasubramanian et al., 2005; Heitz-Spahn, 2013), we argue that if a consumer spends time and cognitive resources in searching for a product online, and then makes the effort of going to the store to check and buy the product, an uncertainty-reduction search strategy may be assumed.

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Our demarcation of the multichannel behaviour is in line with the definition of the research shopper proposed by Scott Neslin and colleagues (e.g. Verhoef et al., 2007; Neslin and Shankar, 2009). These authors refer to this type of behaviour as ‘the propensity of consumers to research the product in one channel (e.g. the Internet), and then purchase it through another channel (e.g. the store)’ (Verhoef et al., 2007; p. 129). In this conceptualisation, the word research implies a certain degree of physical and mental effort in the purchase process. In addition, although we acknowledge the importance of other channels (catalogue, telephone and tele-purchase process, we focus on the Internet and physical store channels as these channels are dominant in multichannel shopping process. In this conceptualisation, the word research implies a certain degree of physical and mental effort in the purchase process. Moreover, as previously highlighted, the most extended cross-channel combination is based on an online information search and an offline purchase.

Within this framework, we examine the effects of a previous online interaction with a product on the subsequent preferences and decision at the physical store, as well as on the outcomes of the experience. Moreover, we analyse how online customer reviews help the consumer to improve their purchase experience and decision. Previous literature has shown that interpersonal information sources, such as other consumers’ opinions, reduce the consumer’s uncertainty in a purchase situation (Racherla et al., 2012). The development of new technologies contributes to a ubiquitous access to this valuable information (Van Bruggen et al., 2010). More specifically, we focus on positive reviews given that they can help consumers to reinforce their preference for a product (Chevalier and Mayzlin, 2006; Park et al., 2007). According to the positivity bias (Pan and Zhang, 2011), involved consumers systematically process individual reviews (as opposed to the aggregate information across reviews), likely possess a favourable opinion about the product, which may interfere with their information processing by eliciting a confirmatory bias. However, review extremity has been previously associated with low levels of helpfulness (Mudambi and Schuff, 2010). Therefore, within the range of extremely negative to extremely positive reviews, we analyse the influence of a generally positive online review. Moreover, online reviews are predominantly positive in the online medium (Hu et al., 2009; Williams et al., 2010). Finally, the role of the motivation to touch the product is examined. Motivation to touch has been suggested as a key factor in multichannel shopping behaviour that should be taken into account in research about this topic (Dholakia et al., 2010). Motivation to touch may affect the relative influence of tactile information, the previous online experience and the online reviews on the consumer’s final decision and evaluation of the experience.

**CONCEPTUAL BACKGROUND AND RESEARCH PROPOSAL**

As previously argued, webroomers research product information online and then go to the physical store to purchase the product with the aim of reducing uncertainty and make the decision with a high degree of confidence. Uncertainty in this purchase context may arise by situational characteristics. Past studies suggest that multichannel shopping is a highly involving behaviour (Neslin et al., 2006). Consumers combine the virtual and physical channels in order to gather information about the product and exert effort to obtain adequate product knowledge. When consumers are involved with the purchase of a product, their informational needs are increased, which lead them to carry out an exhaustive information search (Eagly and Chaiken, 1993). Highly involved consumers are motivated to choose the best option (i.e. the best possible product to satisfy their shopping needs and/or goals; Puccinelli et al., 2009) and thus perceive a high level of uncertainty in the purchase (Greenleaf and Lehmann, 1995).

The uncertainty associated to a webrooming purchase can also be established by the particularities of each medium. The Internet provides consumers with large amounts of information and decision assistance tools to access, search, select, compare and evaluate alternatives (Alba et al., 1997; Häubl and Trifts, 2000). However, consumers possess a limited cognitive capacity, and great amounts of information can overload consumers’ minds and create feelings of confusion and anxiety (Henry, 2005; Walsh and Mitchell, 2010). These negative feelings may yield in an increased overall uncertainty. Moreover, consumers are not able to physically interact with products or other people (e.g. other consumers, companions and sales personnel) on online environments, which may increase their levels of uncertainty (Mitchell, 1999). Thus, the consumer may want to change towards the physical store to ensure the information and/or buy the product.

In any case, the combination of the online and offline channels will allow consumers to reduce the uncertainty associated with the purchase and to make the decision with a high degree of confidence. According to theories of uncertainty reduction (Lee, 2001; Stafford and Grimes, 2012), feeling uncertain has a powerful motivational effect. In the cross-channel context, consumers combine channels according to their informational needs, creating individuated information that increases their perceived control over the process and lead them to believe that they are making the right choice (Schul and Mayo, 2003).

Within the consumer’s purchase decision process (Engel et al., 1995), we analyse the stages prior to the consumer’s choice (information search in which the consumer familiarises him or herself with an offering and establishes a preference, i.e. purchase intentions), purchase decision and post-purchase evaluation of the experience. Specifically, we focus on two key outcomes of the webrooming experience: search-process satisfaction and choice confidence.

Search-process satisfaction is defined as the satisfaction with the actual information search process (Creyer and Kozup, 2003). Consumers perceive value of the purchase experience (Zeithaml, 1988) and obtain satisfaction not only with the product but also with the shopping decision process itself. Generating satisfaction along the path-to-purchase process has been stressed as a key factor for effectively managing customer experiences (Puccinelli et al., 2009).
Satisfaction with the decision-making process leads to consumption satisfaction and positively influences post-choice behaviour (Heitmann et al., 2007).

Confidence is a mental state of certainty with which a product, brand or purchase situation is evaluated (Tormala et al., 2008). For this research, achieving confidence represents an approaching goal (i.e. a goal related to attaining positive outcomes, such as achievement or self-affirmation; Heitmann et al., 2007) that motivates the webrooming behaviour. The use of the online and the offline channels reduces information asymmetries and enhances control over the purchase process, which allows consumers to arrive at a decision with a high degree of confidence. When consumers exert effort to systematically process the information and use more complete decision strategies, confidence in decision-making arises (Bettman et al., 1998). Thus, choice confidence is viewed as an important outcome of webrooming, reflecting the extent to which the consumers may feel that they have performed the combination of media that allows them to arrive at the best decision.

Figure 1 shows an overview of our research proposal. Taking into account that multi-channel companies need to prevent free riding and foster retention across channels (Van Baal and Dach, 2005), we examine the specific purchase webrooming situation in which the consumer searches for product information in a multi-channel retailer’s Web site and then visits the same retailer’s physical store to corroborate the information and make the purchase. Although rather limited, this context of analysis may offer important implications. Following the framework of Dholakia et al. (2010), the consumer brings several characteristics to the physical store that may influence their shopping experience. In this research, consumers bring an initial impression of the product formed in a previous online interaction, which is confronted and/or confirmed through a physical experience at the store. Also, consumers encounter new elements at the physical store that may influence their final evaluations and decisions (Dholakia et al., 2010). In this context, consumers may encounter a new alternative. Thus, we examine the differences in purchase intentions and choice between a product, which is initially considered in the online channel (target hereafter), and a new product (rival hereafter), which has the potential to take part into the consideration set. The goal is to determine the stability of the initial preference and the outcomes of the experience in terms of search-process satisfaction and choice confidence. In addition, interpersonal information sources play a key role in reducing consumers’ uncertainty and affect purchase behaviour, especially in the case of highly involving decision process (Mourali et al., 2005). We analyse whether the presence of an online positive customer review helps consumers to reinforce their impression about the target product, increases its choice and improves the post-choice evaluations. Following the framework of Dholakia et al. (2010), we consider the possibility that the consumer either brings the customer review from the online search episode or encounters it at the physical store. Finally, taking into account the relevance that tactile information may have in the decision of performing a webrooming purchase process, we examine the effects of the motivation to touch, which may have a direct influence on purchase intentions, choice and the outcomes of the experience. Also, it may determine the weight that the information obtained through the physical inspection has on the resulting experience and final decision, thus affecting the influence of the previous online interaction and the customer review. With the aim of offering more validity to the proposed effects, we consider that the motivation to touch may be established.

![Research Proposal](Figure 1. Research Proposal)
internally by the consumer (i.e. Need for Touch; Peck and Childers, 2003a) or externally by the purchase situation (i.e. products differing in the importance of tactile properties for evaluation and purchase; Klatzyk and Lederman, 1992).

HYPOTHESES

Effects of the online–offline combination
In the multichannel context, several authors have analysed the effects of different types of virtual experiences and direct experiences, as well as the differential impact of sequential combinations of online and offline experiences (Griffith and Chen, 2004; Daugherty et al., 2008; Keng et al., 2012). The results of past research generally support the benefits derived from the combination of virtual and direct experiences in an online–offline sequence, compared with each one in isolation, in consumer’s knowledge about the product, brand attitude and purchase intentions. If the individual establishes a favourable impression of the product through an initial virtual experience, this evaluation may be enhanced once he or she obtains a direct experience with it (Daugherty et al., 2008). Research on prior exposure effects shows that consumers’ recognition of target objects enhances the size of mere exposure effects (Stafford and Grimes, 2012). Consumers repeatedly exposed to a stimulus become familiar with it, which leads to a higher confidence in their judgement and ultimately determines their preference (Lee, 2001). Similarly, in case of lacking previous experiences with other products encountered at the physical store, it is expected that the purchase intentions towards a new, rival product will be less favourable than towards the target product. If the consumer combines the online and offline channels to reinforce the idea that the product considered (i.e. the target product) is the best to match with their needs and goals, the choice of this product, compared with new alternatives, is expected to be higher.

Hypothesis 1: In a webrooming shopping process, purchase intentions towards the target product will (a) increase from the online to the offline interaction with the product and (b) be higher than towards a rival product encountered at the physical store.

Hypothesis 2: In a webrooming shopping process, consumers’ choice of the target product will be higher than a rival product encountered at the physical store.

The incorporation of the online channel to offline purchases allows the consumer to face the purchase-decision process with more information and power (Van Bruggen et al., 2010), thus improving the resulting outcomes of their experience. In this way, the consumer’s search-process satisfaction may increase after having a physical interaction with a product previously considered on the online environment. If the consumer visits the physical store in order to reduce the uncertainty associated to the decision process, and as long as the physical contact is possible and serves to confirm what has been researched online, it may be expected that the satisfaction with the search process will increase once the direct experience takes place. The consumer may positively value the informational and hedonic benefits of a physical interaction with the product, which can be added to those obtained from the previous online interaction.

Hypothesis 3: In a webrooming shopping process, search-process satisfaction will increase from the online to the offline interaction with the target product.

Finally, information processing literature establishes that consumers carry out exhaustive information searches and analyse every piece of information carefully with the goal of being confident in their judgments (Eagly and Chaiken, 1993; Petty et al., 2002; Tormala et al., 2008). In cross-channel purchasing processes, consumers exert a certain degree of physical and cognitive effort to search for information in the online and physical channels. Therefore, we expect that when consumers choose a product that has been researched through the combination of the online and offline channels, they will be more confident in their choice than when they choose a product that is only evaluated at the physical store.

Hypothesis 4: The level of choice confidence will be higher in the cross-channel process than in a search experience that has been based only on the physical inspection.

Effects of online customer reviews
One of the main changes that the Internet has brought to the consumer’s purchase process is the possibility to access other consumers’ opinions (Dellarocas, 2003; Senecal and Nantel, 2004; Hennig-Thurau et al., 2010). Consumers have access to a limitless amount of information from other consumers who frequently are complete strangers (Chatterjee, 2001). Moreover, compared with traditional word of mouth (WOM), electronic WOM or e-WOM is established in an impersonal way. Nevertheless, several studies demonstrate the great potential of e-WOM communication to influence purchase behaviour (e.g. Park et al., 2007; Gupta and Harris, 2010; Schindler and Bickart, 2012). Specifically, e-WOM alleviates the consumer’s perceived risk (e.g. Racherla et al., 2012). If webroomers are committed to reduce the uncertainty and make the purchase with a high degree of confidence, it is interesting to analyse how e-WOM affects this process.

We focus on online product reviews as a particular form of e-WOM (Lee et al., 2006; Chen and Xie, 2008). Online product reviews are generated by other consumers who – are presumed to – have acquired the product and used it, and communicate their experiences, evaluations and opinions about it (Park et al., 2007). Taking into account our point of departure, and that this form of communication is mainly established in an impersonal way by people unknown for the consumer, we focus on the influence of the informational – rather than the social – dimension of reviews (Racherla et al., 2012). The extent of information available in a review helps customers to assess the attributes
of the product, thus alleviating the uncertainty of the decision process.

In addition, we examine the effects of positive reviews. Positive online product reviews are intended to favour and reinforce individuals’ preferences towards it (Chevalier and Mayzlin, 2006; Park et al., 2007). In general, positive reviews are more frequent than negative reviews (Chevalier and Mayzlin, 2006; Hu et al., 2009; Williams et al., 2010). Schindler and Bickart (2012) argue that positive reviews are majority because people are more likely to provide opinions when they are satisfied with a product. They demonstrate that positive reviews are more helpful than negative reviews. In this way, any persuasive attempt may have assimilation or contrast effects on consumers (Mason et al., 2007). According to Janssen and Jager (2001), assimilation effects are likely to occur when the consumer’s goal is to form an accurate judgement of the object, which is coincident with our research proposal. If the webroomer is committed to accomplish with this objective, the positive information of an online product review will be consistent with this tendency (Khare et al., 2011), yielding in a positivity bias (Pan and Zhang, 2011). In other words, it is more likely that consumers carrying out a webrooming process seek for positive opinions that reinforce their impression of the target product rather than negative information to discard it.

However, too many positive statements may lead the reader to question the reviewer’s motives, and some negative information may also help the consumer. Therefore, we examine how the presence of a generally positive review posted by an anonymous customer online affects the webrooming purchase experience. The information generated by other consumers may be considered as more reliable and relevant than that from the company, because it comes from people who – if their independence is to be believed – do not respond to commercial interests (Senecal and Nantel, 2004; Park et al., 2007). Thus, purchase intentions and the choice of the target product should be higher in the presence of an online customer review. Moreover, consumers may value the information obtained through customer reviews, experiencing increased levels of satisfaction with the search process (Schindler and Bickart, 2012). Given the reinforcing effect that the customer review may have on the consumer’s impression of the product’s adequacy, we also propose a positive effect on choice confidence.

Hypothesis 5: The presence (versus absence) of a positive online customer review in the webrooming shopping process will have a positive influence on (a) purchase intentions, (b) choice, (c) search-process satisfaction and (d) choice confidence.

Effects of motivation to touch the product

The marketing literature acknowledges the motivation to touch the product as a source of variation in consumer behaviour (Citrin et al., 2003; Peck and Childers, 2003a; Dholakia et al., 2010). Consumers differ in their intrinsic motivation to touch (i.e. need for touch (NFT); Peck and Childers, 2003a), which may determine the evaluation obtained after a direct experience with the product. In this case, NFT represents a particularity that the consumer brings to the store. Consumers with high NFT are more confident in their judgments after a direct experience with the product, whereas low NFT consumers had the same levels irrespective of touching (Grohmann et al., 2007). On the other hand, motivation to touch can be established as a situational characteristic. Products differing in the importance of their material properties may affect the resulting outcomes of the cross-channel purchase experience and decision. Information obtained through a physical inspection can be especially valuable when the product has considerable attributes than cannot be evaluated effectively otherwise (McCabe and Nowlis, 2003; Grohmann et al., 2007). Information about the tangible aspects of the product (e.g. weight, texture and manageability), even the real aesthetic appearance (Smith, 2006), is difficult to obtain online.

Either case, past research shows that when the motivation to touch is high, tactile information is highly diagnostic and has a great weight in the consumer’s evaluations and decision (Grohmann et al., 2007). If high motivated consumers pay attention mainly to tactile information, the information obtained through a previous online interaction may be more elusive than when the motivation to touch is low. Touching products with important physical and tactile properties affects directly the preference towards those products, compared with a situation in which touch is not feasible (McCabe and Nowlis, 2003; Peck and Childers, 2003b). Thus, during a physical experience with the products, the motivation to touch may have a direct impact on purchase intentions. Previous research has also shown that consumers with a high NFT are more likely to partake in impulsive behaviour (Peck and Childers, 2006). Thus, the likelihood of choosing a new alternative found at the physical store may be heightened when the motivation to touch is high. Moreover, touching products has a hedonic component (Peck and Childers, 2003a), which may directly influence the satisfaction with the search process once the consumer has obtained the physical interaction (Grohmann et al., 2007). Finally, consumers with a high motivation to touch, and consumers touching products with important physical attributes, feel more confident after a direct experience, given the diagnostic power of tactile information for these consumers (Peck and Childers, 2003a) and for these products (McCabe and Nowlis, 2003). Formally,

Hypothesis 6: After a physical interaction with the product, the motivation to touch will have a direct influence on the consumer’s (a) purchase intentions, (b) choice, (c) search-process satisfaction and (d) choice confidence, in the cross-channel process.

As previously stated, tactile input can be highly diagnostic when the motivation to touch is high. However, in situations in which the physical interaction with the product does not provide with valuable information (because the consumer is not internally motivated or the product’s physical attributes are not relevant), consumers rely on textual information and verbal descriptions (McCabe and Nowlis, 2003). Thus, the online reviews could be viewed as a positive aspect of
the shopping experience. Customer reviews serve to reduce the effort required and the uncertainty in the decision-making process, increasing the satisfaction with the decision-making process and the degree of confidence (Fitzsimons and Lehmann, 2004).

**Hypothesis 7:** When the motivation to touch the product is high, the influence of a positive online customer review on the consumer’s (a) purchase intentions, (b) choice, (c) search-process satisfaction and (d) choice confidence will be lower than when the motivation to touch the product is low.

**METHODOLOGY**

Previous research advocates for the need of conducting behavioural experiments at the individual level to better understand the consumer’s cross-channel decision process (Chatterjee, 2010; Pauwels et al., 2011; Kushwaha and Shankar, 2013). Taking into account the specific context of analysis, which requires a high control over the environment, two experimental studies are carried out. In both experiments, all the participants had a previous online interaction and then a physical interaction with the target product. Study 1 examines how an online positive review received during the online search episode influences the subsequent physical interaction with the product. At the physical encounter, the participants have an interaction with the product previously considered (target) as well as with a new alternative (rival). The analyses focus on the changes that occurred from the online interaction to the physical inspection of the target, as well as on the differences between the target and the rival. In addition, the motivation to touch the product is examined by means of the consumer’s NFT (Peck and Childers, 2003a). In Study 2, two modifications are included in order to clarify and extend the results of Study 1: first, the customer review is received during the physical interaction with the products and second, the motivation to touch is operationalised extrinsically by using product types differing in the importance of their physical attributes for evaluation and purchase (Klatzky and Lederman, 1992).

**Study 1**

**Design and procedure**

The experiment consisted of one between-subjects factor in two levels (online review: yes versus no). NFT was measured as a within-subjects factor. Participants were 63 college students. Previous studies on multichannel consumer behaviour have used students as a valid sample population (e.g. Goldsmith and Flynn, 2005; Laroche et al., 2005; Lee and Kim, 2008; Cho and Workman, 2011; Keng et al., 2012). First, these Generation Y consumers (Paul, 2001) are highly familiarised with new technologies and are more likely to use them in their purchase processes than other consumer segments (Keng et al., 2012). Second, college students possess a substantial spending power, which ensures a valid consumer group from the marketing perspective (Cho and Workman, 2011). Third, students are relatively homogeneous, specifically in terms of education level and age (Laroche et al., 2005). Thus, controlling for these variables provides for a stronger test of our hypotheses. Analysis of demographic information suggested that the sample had a representative profile of the student population in terms of gender (59% female), age (74.6% between 18 and 25 years old), Internet use experience (87.3% had more than 5 years of Internet use experience) and online purchase experience (77.8%) (MECD, 2013; ONTSI, 2013).

The context of the study was the purchase of a smartphone. The choice of smartphones was deemed as appropriate for several reasons: first, smartphones, within the electronics category, are highly purchased by means of cross-channel processes (Chiu et al., 2011; Heitz-Spahn, 2013). Second, this type of products is especially attractive to the demographic sample (Cho and Workman, 2011; ONTSI, 2013). Third, both search and experience attributes are important for their evaluation (Gupta and Harris, 2010). Thus, the combination of the online and the offline attributes seems to be the ideal for consumers to obtain complete information about the product. Finally, the results of two pretests confirmed that smartphones was the proper stimulus for the studies.¹

Participants were placed in a simulated purchase situation in which they were led to think that they had to renew their mobile phone. Specifically, the participants received the following instructions:

Imagine that it is time to renew your mobile phone, so you have started to search for a new phone. After surfing the Web for a while, you enter MobileShop.com, the website of Mobileshop’s retailer. Mobileshop is one of the leader multichannel retailers in the European Market of the mobile phone industry. Thanks to their physical stores located throughout the country and its website, you can find information and buy anything related to the mobile telephony. Mobileshop has more than 100 stores located along the country, including the city where the experiment was being carried out. The company has deals with all the telecommunications providers and also offers unlocked (free) mobile phones. Imagine that you have found an interesting offer that you may consider for the purchase. This product matches with your provider’s requirements (in case you have a contract) and its price is within your expected budget.

We used a fictitious company (Mobileshop) in order to avoid possible biases in the participants’ brand perceptions from previous experiences with the retailer. In addition, given the great complexity and variability in the mobile phones market in terms of contracts, conditions and price ranges depending on the service providers, we told the participants to imagine that the product that they found matched with their service provider’s requirements (in case they had them). Finally, we told the participant to imagine that the price of the product was within their budget in order to avoid price sensitivity bias (Konuş et al., 2008).

¹The complete data of the pretests can be requested from the authors.
The experiment was developed in two parts. In the first part (T1), participants had an online interaction with the product. The online product presentation contained a small paragraph describing the product, a list of attributes and a picture. Participants in the ‘no review’ condition received no further information; those in the ‘review’ condition additionally read a positive online review of the product of approximately 150 words in which an anonymous user evaluated several attributes of the smartphone and talked about use experiences. Suggestions from the specialised literature were followed in order to create an adequate online product review (Chatterjee, 2001; McCabe and Nowlis, 2003; Park et al., 2007; Schindler and Bickart, 2012). Specifically, we carried out a content analysis of real customer reviews and opinions in mobile phones online retailers (e.g. www.xatacamovil.com) and specialised forums (e.g. www.ciao.com), which served to obtain a list of attributes most often cited in the reviews of this type of products. The content of the review was mainly positive, although some neutral and negative statements were also included in order to make the review more credible and helpful. In addition, an overall evaluation in which the product scored four out of five stars was displayed. Moreover, a text was placed below the review that read: ‘This review has been rated as very useful by the users of Mobileshop’, to compensate for the lack of quantity of the reviews. Finally, to signal the timely nature of the review, the participants read that the review had been published 22 days ago. The Appendix shows the stimuli for Study 1.

After interacting with the product presentation for a few minutes, the participants indicated their satisfaction with the search process (four items from Heitmann et al., 2007; see the Appendix for the complete list of items and indices of reliability and dimensionality; Hair et al., 1998) and the likelihood of buying the product to account for their purchase intentions. All the scales used 7-point Likert basis. As a manipulation check, we also collected additional measures about the review’s helpfulness. Specifically, participants reported the perceived website’s diagnosticity, defined as the ‘extent to which consumers believe a website is helpful for them to understand products’ (Jiang and Benbasat, 2007, p. 475; Appendix). In addition, taking into account that the review was placed in a retailer’s website and it was written by an anonymous person, the participants indicated their perceptions about the review’s trustworthiness (five items from Ohanian, 1990; Appendix).

In the second part (T2), participants had a physical interaction with the target product. The presentation replicated conventional presentations used in multichannel physical stores (e.g. Best Buy, FNAC and the Phone House; Appendix). In addition, a new – rival – product was placed just beside the target. The rival was chosen because it had similar characteristics with the target in terms of appearance and functionalities. The phones were placed with a list of characteristics commonly used in this type of presentations (quad band, camera, memory, mp3 player, video, Bluetooth, tactile screen and 3G/WiFi/GPS). The participants were instructed to touch and handle the products at their pace, check their manageability and to open the box to see the accessories (placed beneath the each product). However, and with the aim of creating a realistic shopping scenario, the devices were turned off during the physical interaction. Conventional physical stores may be reluctant to allow their clients to interact with this type of products because this may entail extra costs in security equipment and damages produced as a consequence of the interaction. Moreover, having the devices turned off ensured homogeneity in the treatment (otherwise, the participants could have performed different activities with the phones, and the treatment would have differed) and served not to excessively prolong the experiment.

After a few minutes interacting with both products, the participants completed the second part of the questionnaire (T2). In addition to the measures of satisfaction with the search process and purchase intentions towards the two products, participants were asked to make a choice. Specifically, they were told that the products were going to be raffled among the participants of the study. The participant was asked to choose which one of the two products he or she would take in case of being a winner. After making their choice, they were asked about their degree of choice confidence (four items from Petty et al., 2002; Appendix). Finally, under the premise of a different study about youth personality, the participants completed the 12-item NFT scale, among other measures (Peck and Childers, 2003a; α = 0.93; 69.67% of variance explained).

Results
The descriptive data for each experimental group and for the total sample appear on Table 1. First, the results of a repeated-measures analysis of variance (ANOVA) indicated that the purchase intention towards the target increased from T1 to T2 (F(1, 62) = 30.696, p < 0.001) and was significantly higher than towards the rival (F(1, 62) = 8.054, p < 0.01; Table 1). These results support H1a and H1b. Regarding choice, the results of a binomial test assuming equal probability revealed significance (p < 0.05). Supporting H2, participants chose the target product in a higher proportion than the rival product (Table 1). Moreover, the results of a repeated-measures ANOVA showed that search-process satisfaction increased after physically interacting with the product (F(1, 62) = 15.817, p < 0.001; Table 1), supporting H3. Finally, participants who chose the target product held their choice with a higher degree of confidence (M = 6.12, SD = 0.83) than those who chose the rival product (M = 5.31, SD = 1.39). The significance of the univariate ANOVA (F(1, 62) = 8.269, p < 0.01) supported H4.

Before testing the effects of the online review, we checked that the online positive customer review was

\(^{2}\)In order to establish some time gap between the online and the physical interactions, participants played on resolving crosswords and puzzles during 10 min approximately.

\(^{3}\)The results of the exploratory factor analysis revealed two eigenvalues higher than the unit, corresponding to the instrumental and autotelic dimensions of NFT identified by Peck and Childers (2003a). However, no significant differences were found for each dimension separately. Thus, the composite measure of NFT was used for the analyses.

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DOI: 10.1002/cb
perceived as helpful and trustworthy by the participants. As Table 1 shows, participants who read the online review perceived higher website diagnosticity than those in the no-review group. The independent t-test showed marginal significance ($t_{(61)} = 1.712$, $p < 0.1$). In addition, the participants who read the review reported a high perception of trustworthiness ($M = 5.28$, $SD = 0.99$), which was significantly higher than the middle point of the scale ($t_{(61)} = 7.089$, $p < 0.001$). Therefore, the participants relied on the information contained in the review, which also increased the diagnostic capacity of the website.

The PROCESS macro developed by Hayes (2013) was used to test the effects of the online review and of participants’ NFT. In addition to the flexibility of the method, NFT can be treated as a continuous variable, as suggested by the specialised literature (MacCallum et al., 2002). Regarding the increase in purchase intentions towards the target, the analysis yielded no significant results for the online review ($p = 0.63$), the participants’ NFT ($p = 0.51$) or the interaction ($p = 0.42$). After a physical interaction, purchase intentions towards the target product increased regardless of what the participant brought to the store (online positive review, internal motivation to touch). This result may signal a relatively stable preference for a product whose information search has been carried out through an online–offline sequence. However, the fact of reading an online review previously made the rival product less desirable (Table 1), as the difference in purchase intentions between products became larger ($\beta = 0.78$, $SE = 0.35$; $t_{(59)} = 2.236$, $p < 0.05$). On the contrary, as the participants’ NFT increased, the difference in purchase intentions between products decreased significantly ($\beta = -0.75$, $SE = 0.16$; $t_{(59)} = -4.795$, $p < 0.001$). Considering the median split of NFT (median = 5.45), we observed that the difference in purchase intentions between products was higher for low NFT participants ($M = 1.14$, $SD = 1.63$) than for high NFT participants ($M = -0.17$, $SD = 1.28$; $t_{(61)} = 3.511$, $p < 0.01$). Moreover, the level of NFT moderated the effect of the online review ($\beta = -0.65$, $SE = 0.31$; $t_{(59)} = -2.081$, $p < 0.05$). Following the Johnson–Neyman technique (Hayes, 2013), the data showed that the online review had a significant effect until the participants’ NFT reached the point of 5.51 of the scale (49% of the sample). Partial support is found for H5a, H6a and H7a, because the online review and the internal motivation to touch did not affect the increase in purchase intentions towards the target, although they clearly affected purchase intentions towards the rival.

The results of a logistic regression on choice with the online review and participants’ NFT as the independent factors revealed a significant negative impact of NFT ($\beta = -1.25$, $SE = 0.38$; $z = -3.264$, $p < 0.01$); supporting H6b, the higher the participants’ NFT, the lower the probability of choosing the target product. No other effects were significant (all $p > 0.32$), rejecting H5b and H7b.

Focusing on the outcome variables, the regression on the increase in satisfaction showed a negative effect of the online review ($\beta = -0.52$, $SE = 0.20$; $t_{(59)} = -2.599$, $p < 0.05$). Contrary to H5c, the increase in satisfaction was higher when the participants did not read the online review than when they read it. However, in line with H6c, the participants’ NFT had a significant direct positive influence on the satisfaction ($\beta = 0.39$, $SE = 0.09$; $t_{(59)} = 4.384$, $p < 0.001$). Search-process satisfaction increased more for participants with a high NFT ($\Delta M = 0.81$, $SD = 0.93$) than for those with low NFT ($\Delta M = 0.20$, $SD = 0.81$). The interaction term was not significant ($p = 0.37$), thus rejecting H7c. Finally, reading an online review prior to the physical interaction had a significant positive impact on choice confidence ($\beta = 0.75$, $SE = 0.27$; $t_{(59)} = 2.740$, $p < 0.01$; H5d is supported), regardless of the product chosen. The level of NFT did not directly affect choice confidence ($\beta = 0.87$) or moderated the effect of the review ($p = 0.40$). Thus, H6d and H7d are rejected.

**Discussion**

Overall, the results show that the consumer’s search experience and decision improves when using a combination of the online and offline channels. The purchase intentions towards the target product increased after a physical interaction and were higher than towards a rival encountered at the physical store. In addition, the target was chosen by more participants than the rival, who held their choice with a higher degree of confidence. Furthermore, search-process interactions and decisions improved with a high level of NFT.

Table 1. Descriptive data from Study 1

<table>
<thead>
<tr>
<th></th>
<th>No online review</th>
<th></th>
<th>Online review</th>
<th></th>
<th>Total</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Online interaction (T1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase intention (target)</td>
<td>3.59</td>
<td>1.64</td>
<td>3.81</td>
<td>1.56</td>
<td>3.70</td>
<td>1.66</td>
</tr>
<tr>
<td>Search-process satisfaction</td>
<td>4.70</td>
<td>1.02</td>
<td>5.00</td>
<td>0.93</td>
<td>4.85</td>
<td>0.98</td>
</tr>
<tr>
<td>Website diagnosticity</td>
<td>4.73</td>
<td>1.11</td>
<td>5.17</td>
<td>1.12</td>
<td>4.94</td>
<td>1.04</td>
</tr>
<tr>
<td>Physical interaction (T2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase intention (target)</td>
<td>4.56</td>
<td>1.59</td>
<td>4.58</td>
<td>1.77</td>
<td>4.57</td>
<td>1.59</td>
</tr>
<tr>
<td>Purchase intention (rival)</td>
<td>4.19</td>
<td>1.66</td>
<td>3.77</td>
<td>1.38</td>
<td>3.98</td>
<td>1.53</td>
</tr>
<tr>
<td>Search-process satisfaction</td>
<td>5.33</td>
<td>1.03</td>
<td>5.29</td>
<td>1.21</td>
<td>5.31</td>
<td>1.11</td>
</tr>
<tr>
<td>Choice confidence</td>
<td>5.48</td>
<td>1.22</td>
<td>6.22</td>
<td>0.84</td>
<td>5.85</td>
<td>1.11</td>
</tr>
<tr>
<td>Choice (% target)</td>
<td>65.6</td>
<td></td>
<td>67.7</td>
<td></td>
<td>66.7</td>
<td></td>
</tr>
</tbody>
</table>

4 The increases in purchase intentions and search-process satisfaction from T1 to T2, as well as the difference in purchase intentions between the target and the rival product, were calculated to create appropriate dependent measures. All the variables were mean centred prior to the analysis (Hayes, 2013).

5 This value was not significantly different from 0 ($p = 0.47$)
satisfaction increased when the online interaction was subsequently accompanied by a physical inspection of the product. However, the presence of an online review and the motivation to touch influenced these effects. Regarding the customer review, the analyses did not generally support our hypotheses. The review did not influence purchase intentions and choice, and it had a negative impact on the increase in satisfaction. This latter result may be because participants had valued positively the customer recommendation in the online interaction and this effect diluted afterwards. In fact, search satisfaction after the physical interaction (T2) hardly varied with or without the review (Table 1). The cross-channel shopping behaviour is a step-by-step process in which consumers evaluate the information in one channel and later update it with information obtained in another channel (McCabe and Nowlis, 2001). Thus, consumers may discount the effects of the online positive review when visiting the physical store. One alternative explanation for this result may be a lack of trust in the online review, leading to a less satisfactory experience. However, the participants’ perceived trustworthiness in the review was moderately high. Nevertheless, the review reduced the participants’ preference for a rival alternative and positively influenced the choice confidence. Thus, reading an online positive review before visiting the store may help consumers to have a more stable preference for the product, making other alternatives less desirable.

Regarding the effects of the motivation to touch, we found mixed results. The participants’ NFT had a positive effect on purchase intentions towards the rival, but it had no effects on purchase intentions towards the target. Previous research demonstrates that the fact of touching the product increases preferences for people with high motivation to touch, whereas it has no effects for those with a low motivation (e.g. Grohmann et al., 2007). However, the results of this study show that, if consumers have an online interaction with the product prior to touching it, their levels of NFT may no longer influence the preferences towards it. In this case, the increase of purchase intentions is due to the enhanced experience derived from the combination of the online and physical channels, rather than from personal factors. Moreover, the specialised literature demonstrates that, for high NFT individuals, the mere fact of touching the product may increase the likelihood of purchasing it impulsively (Peck and Childers, 2006). Our results replicate these findings, given that participants’ NFT had a direct impact on the choice of the rival alternative.

Finally, the participants’ NFT had a positive influence on search-process satisfaction. It could be argued that the increase in search-process satisfaction is because of actually purchasing the product at the physical store, rather to the information benefits that the physical interaction adds to the previous online interaction. Although we cannot discard this possibility, our results regarding NFT’s point to this may not be the case, as touching the product had a great impact on the increase in search-process satisfaction, especially for those consumers who rely on tactile information. In addition, motivation to touch has a hedonic dimension (Peck and Childers, 2003a). High NFT consumers enjoy touching products, affecting the satisfaction with the search process.

With the aim of extending and clarifying these results, the next study includes two modifications. First, the online review is read during the physical encounter. The goal is to examine whether the lack of (or even the negative) effects of the online customer review may be due to the consumers’ discount of its value. Second, motivation to touch was not measured but directly manipulated through different product types.

**Study 2**

**Design and procedure**

Study 2 consisted of a full factorial design, with 2 (online customer review: yes versus no) × 2 (product type: strap bag versus universal serial bus (USB) memory stick) subjects. Participants were placed on a purchase channel retailer, given that it provides with informational and sales channels in both the website and the physical store. Parallel to Study 1, participants had an online interaction with the product information and a subsequent physical experience, where a new alternative was offered. The customer review was introduced at this point of the search experience. The participants who received the treatment were told that the university shop was testing a new mobile application, which would allow their customers to access additional information about the product through scanning a quick response code. Participants were directed to the ‘customer reviews’ option of the application and read a positive review of the target product. The review was constructed in the same way as in the previous study (Appendix). Measures of search-process satisfaction and purchase intentions were collected in the first and second moments of the sequence, as well as for the rival, in the same way as in the previous study. Study 2 also included the actual choice of the participants and measured choice confidence. The participants in the review condition reported their perceptions about the trustworthiness of the review (Appendix), as well as the extent to which the review was helpful to make a decision. Finally, we asked the participants about their perceived involvement with the task (five items from Daugherty et al., 2008; Cronbach’s $\alpha=0.853$, 68.08% variance explained). In addition, we measured the realism and believability of the scenarios with two items using 7-point scales ‘the scenario is realistic’, ‘the scenario is believable’. An additional question measured the suitability of the scenario: how likely would you be to encounter a situation similar to the one described in the scenario? (from 1 = very unlikely to 7 = very likely).

The selection of the products was made on the basis of the results of a pretest ($n=41$). The goal was to select two

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6The information regarding the mobile application and the customer review was simulated in a paper-based format. The university shop was not really developing this mobile application.
product categories differing on their material properties (Klatzky and Lederman, 1992; Peck and Childers, 2003b) to obtain an adequate manipulation of the motivation to touch the product. In addition, the pretest aimed at choosing two products, within each category, with similar perceptions of likeability and similarity to control for possible noise in the data. Participants in the pretest reported the importance of touch and material properties (i.e. touch, softness, texture, weight and hardness; Klatzky and Lederman, 1992; Peck and Childers, 2003b) for the evaluation and purchase of a series of products from the university shop (i.e. sweaters, pens, USB memory sticks, strap bags and flashlight pens). Participants also indicated the degree of similarity and likeability of a pre-selected pair of products within each category. All the measures used 7-point scales. The results of several repeated-measures ANOVAs showed a clear difference in favour of strap bags over USB memory sticks in the importance of touch (F(1, 40)=9.889, p < 0.01) and material properties (softness: F(1, 40)=66.848, p < 0.001; texture: F(1, 40)=10.741, p < 0.01; weight: F(1, 40)=11.073, p < 0.01; hardness: F(1, 40)=27.528, p < 0.001). In addition, the results of pair-wise comparisons revealed that both products were perceived as similar (strap bag: t(40)=2.957, p < 0.01; USB memory stick: t(40)=3.951, p < 0.001) and did not differ in terms of likeability (strap bag: p=0.68; USB memory stick: p=0.25). Thus, the manipulation of the product type was proven successful. Finally, the researchers checked that both products were available and touch was permitted in the physical store, in order to create realistic scenarios.

Results

We first examined the participants’ involvement with the task and their perceptions of the scenarios in order to check the adequacy of the experiment. The involvement with the task was significantly higher than the middle point of the scale (M=5.51, SD=0.92; t(100)=12.642, p < 0.001). In addition, the scenarios were significantly perceived as realistic (M=5.67, SD=1.25; t(100)=13.454, p < 0.001), believable (M=5.71, SD=1.23; t(100)=14.024, p < 0.001) and suitable (M=5.28, SD=1.62; t(100)=7.927, p < 0.001). Neither the review nor the product treatments affected these variables (ps >0.24). Therefore, we ensured a certain degree of adequacy in the recreation of the university shop’s mobile application and the purchase scenario. Second, participants who read the positive review evaluated it as trustworthy (M=5.07, SD=1.07; t(45)=6.784, p < 0.001) and helpful (M=4.72, SD=1.77; t(45)=2.746, p < 0.01), which serves as a manipulation check for the review treatment.

The descriptive data can be observed in Table 2. The results of a repeated-measures ANOVA revealed a significant increase in the purchase intention towards the target (F(1, 97)=21.665, p < 0.001). This time, reading an online review during the physical interaction had a significant impact on this increase (F(1, 97)=8.547, p < 0.01; Table 2). Purchase intention increased more for the strap bag than for the USB memory stick, although the difference was not significant (p=0.764). The marginally significant interaction (F(1, 97)=2.843, p <0.1) indicated that the effect of the online review was stronger for the USB memory stick than for the strap bag. In a similar vein, the difference in purchase intentions between products was significantly favourable towards the target (F(1, 97)=3.986, p<0.05). Again, the online review had a significant positive effect on this difference (F(1, 97)=5.418, p <0.05), which was stronger for the USB memory stick than for the strap bag (F(1, 97)=3.238, p <0.1). Unlike Study 1, the product type did not affect the difference in purchase intentions between products (p=0.287). Altogether, the results support H1, H5a and H7a, whereas H6a must be rejected.

Regarding the participants’ choice, the results of one loglinear analysis (Field, 2009) revealed a marginally significant effect of the product chosen (χ²(3)=5.396, p<0.1). In line with H2, the target was chosen by a higher proportion of participants than the rival. Moreover, the analysis showed a significant interaction between the product chosen and the online review (χ²(1)=10.069, p <0.01). As can be observed in Table 2, reading an online review had a positive influence on participants’ choice of the target (H5b is supported). No other effects were significant (ps >0.370), thus rejecting H6b and H7b.

Supporting H3, search-process satisfaction in T2 was significantly higher than in T1 (F(1, 97)=108.450, 468

Table 2. Descriptive data from Study 2

<table>
<thead>
<tr>
<th></th>
<th>No review</th>
<th>Review</th>
<th>Total</th>
<th>No review</th>
<th>Review</th>
<th>Total</th>
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<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Strap bag</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PI (target)</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>3.88</td>
<td>1.25</td>
<td></td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>SP_SAT</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>4.69</td>
<td>0.99</td>
<td></td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Physical interaction (T2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PI (target)</td>
<td>4.37</td>
<td>1.44</td>
<td>4.77</td>
<td>1.87</td>
<td>4.55</td>
<td>1.64</td>
<td>4.43</td>
<td>1.50</td>
<td>5.71</td>
</tr>
<tr>
<td>PI (rival)</td>
<td>3.89</td>
<td>1.69</td>
<td>4.09</td>
<td>1.63</td>
<td>3.98</td>
<td>1.65</td>
<td>5.04</td>
<td>1.37</td>
<td>4.75</td>
</tr>
<tr>
<td>SP_SAT</td>
<td>5.59</td>
<td>1.09</td>
<td>5.81</td>
<td>1.02</td>
<td>5.69</td>
<td>1.06</td>
<td>5.20</td>
<td>0.71</td>
<td>5.65</td>
</tr>
<tr>
<td>CH_CONF</td>
<td>5.58</td>
<td>0.71</td>
<td>6.25</td>
<td>0.71</td>
<td>5.88</td>
<td>0.78</td>
<td>5.82</td>
<td>0.53</td>
<td>6.35</td>
</tr>
<tr>
<td>Choice (%) target</td>
<td>51.9</td>
<td>72.7</td>
<td>61.2</td>
<td>39.3</td>
<td>79.2</td>
<td>57.7</td>
<td>45.5</td>
<td>76.1</td>
<td>59.4</td>
</tr>
</tbody>
</table>

Note: PI, purchase intentions; SP_SAT, search-process satisfaction; CH_CONF, choice confidence; NA, not applicable; USB, universal serial bus.
The type of product significantly affected this increase ($F_{(1, 97)} = 15.396, p < 0.001$). Search-process satisfaction increased more for participants who were engaged in the purchase of a strap bag than for participants engaged in the purchase of a USB memory stick (Table 2; support to H6c). The online review had a marginally significant effect ($F_{(1, 97)} = 2.852, p < 0.1$), which was qualified by a significant two-way interaction ($F_{(1, 97)} = 4.921, p < 0.05$). As Figure 2 shows, the effect of the online review on the increase in satisfaction was significant for the USB memory stick ($F_{(1, 50)} = 7.890, p < 0.01$) and non-significant for the strap bag ($p = 0.714$). Therefore, partial support to H5c is found, although it was contingent on the type of product (H7c is supported).

Finally, and supporting H4, confidence in the choice of the target product ($M = 6.26, SD = 0.56$) was significantly higher than in the rival ($M = 5.56, SD = 0.70$; $F_{(1, 100)} = 31.414, p < 0.001$). Looking at the effects of the dependent variables, only the review had a significant effect ($F_{(1, 100)} = 9.801, p < 0.01$; rest of $p$s $>0.235$). Reading a positive online review during the physical interaction made the participants more confident in their choice, regardless of the product chosen or the type of product. Even though the participant did not choose the target product, the review offers valuable, reliable information that is taken into account to make a decision, thus increasing the levels of choice confidence. Therefore, support is found for H5d, whereas H6d and H7d must be rejected.

Discussion
The results of Study 2 further support the positive effects of the online–offline sequence on the participants’ search experience and decision. After a physical interaction with the product that was previously considered online, purchase intentions and search-process satisfaction increased. In addition, this product was preferred and chosen over another alternative encountered at the physical store. Moreover, participants who chose the target product were more confident in their choice than those who chose the rival.

The results show that reading an online review during the physical interaction with the products improved the participants’ experience and decision. The online customer review had a positive influence on purchase intention and choice of the target, search-process satisfaction and choice confidence. Importantly, customer reviews may help consumers to reduce the uncertainty associated with a product considered on the Internet, thus improving their preference and leading them to make purchase decisions with a high degree of confidence. Consistent with previous research, these findings corroborate the informational influence of interpersonal sources (Park et al., 2007; Racherla et al., 2012), even though this e-WOM communication was established in an impersonal, anonymous way. Also, consumers may value the access to other customers’ opinions at the physical store, as reflected in the increase in their satisfaction with the search experience. Altogether, these results support the hypotheses. The lack of effects found in Study 1 may be because consumers value reading online reviews in the very moment that they receive them. If this occurs on the Internet, the effect may dilute when the consumer visits the physical store. Nevertheless, the influence of the review on choice confidence is consistent across both studies.

Finally, the results generally support the important role of the motivation to touch. The online review had a stronger influence when the participants were in the purchase scenario of a USB memory stick than of a strap bag. However, unlike Study 1, the type of product did not influence the difference in purchase intentions between products and the participants’ choice. These results may be due to the manipulation of the type of product. Looking at the descriptive data in Table 2, the rival USB memory stick was more preferred than the target in the absence of the online customer review. The results of the pretest showed that both products were equally rated in terms of likeability and similarity. However, the sample of the main study could have perceived a clear superiority for the rival product, thus containing the analyses. Nevertheless, the effect of the online review was stronger for this product type. When touching the product offered new and diagnostic information, the effect of external cues, such as online customer reviews, is less relevant. Moreover, search-process satisfaction increased more when the motivation to touch the product was high. These results confirm the incremental experiential benefits of having a physical interaction with the product especially when touching is an important decision criterion, rather than the fact of just purchasing the product at a physical store.

SUMMARY AND IMPLICATIONS
The goal of this research was to better understand the cross-channel shopping behaviour based on a webrooming (i.e. online-to-store) search sequence. Although the showroming phenomenon (i.e. store-to-online) was conceived as a new cross-channel trend that could threat traditional business, the reality is that most consumers carry out extensive information searches before purchasing the product at the physical store (Google Consumer Barometer, 2015). Webrooming is thus the dominant combination of the online and physical channels to purchase a great variety
of non-digitalized products. Despite the growing body of literature about cross-channel shopping behaviour (Neslin et al., 2006; Verhoef et al., 2007; Chatterjee, 2010; Pauwels et al., 2011; Kushwaha and Shankar, 2013), there is a lack of research at the individual level that helps to better understand the webrooming behaviour. We try to fill this gap by examining the webrooming experience and decision through a series of experimental studies. Moreover, this research aims at analysing the impact of online positive customer reviews on the webrooming experience. With the development of mobile technologies, e-WOM communication can now be accessed anywhere, anytime (Hennig-Thurau et al., 2010; Van Bruggen et al., 2010). By considering the informational dimension of interpersonal communications, we analysed the impact of online positive customer reviews as a specific form of e-WOM communications, because consumers tend to rely on this information to help them reduce the uncertainty associated with the purchase. In addition, we examined the influence of reading the online review in the first and second steps of the webrooming process. Finally, the motivation to touch has been acknowledged as a source of variation in the cross-channel shopping behaviour (Dholakia et al., 2010). To offer a better understanding and a more valid test of the relationships proposed, we have examined the direct effects of the motivation to touch on the webrooming experience and decision, as well as its moderating role in the impact of the online positive review.

This research offers several theoretical implications concerning cross-channel consumer behaviour, e-WOM communication and motivation to touch. First, the sequential combination of the virtual and physical channels has positive effects on the consumer’s experience and decision. We replicate previous studies in information processing by showing that a webrooming process generates a positive, stable preference towards the product (McCabe and Nowlis, 2001; Daugherty et al., 2008; Keng et al., 2012) and diminishes the preference for a rival encountered at the store. In this sense, we extend the literature by analysing the effects of this combination in the purchase decision process, including the actual choice and variables related to the evaluation of the experience, that is, search-process satisfaction and choice confidence. Overall, webrooming purchase processes may help consumers to improve their purchase intentions and satisfaction with the experience. In addition, the target product was chosen with a higher frequency than a rival alternative encountered at the store, and participants were more confident in their decision when they chose this product. Thus, these findings support the notion that consumers carry out webrooming processes in order to diminish the uncertainty associated with the purchase and make decisions with a high degree of confidence.

Second, this research contributes to the e-WOM literature. Previous studies have widely analysed the effects of e-WOM in online settings, or the impact of other consumers’ opinions on the purchase of services and non-physical products such as hotels or travels. However, this is one of the first studies that analyse the influence of online customer reviews on consumer’s offline purchases of physical products. We show that a positive online review from an anonymous customer has a positive effect on purchase intentions, choice and search process satisfaction but only when the review is received at the very point of purchase. Otherwise, consumers appear to discount its effect when they visit the store. Nevertheless, online reviews are especially helpful for consumers to make decisions with a high level of confidence.

Third, motivation to touch has been proposed as a key aspect of the cross-channel behaviour. However, most of the studies considering this variable have analysed the motivation to touch as a consumer’s trait (Cho and Workman, 2011; Keng et al., 2012; Herhausen et al., 2015). By both measuring the internal motivation and manipulating it externally, this research tries to offer a better understanding of how this variable works in a webrooming experience and decision. Our results are consistent with past research by showing that touching products improves preferences and the outcomes of the experience especially when the motivation to touch is high (Peck and Childers, 2003a, 2003b; Grohmann et al., 2007). Also, when the motivation is high, the mere fact of touching a product can increase the likelihood of buying it impulsively (Peck and Childers, 2006), because NFT had a direct impact on the purchase intentions and choice of the rival. However, this personality trait did not impact purchase intentions of the target. Thus, if consumers are internally motivated to touch, performing an online search before going to the physical store may prevent them from carrying out undesirable behaviours. In addition, this research contributes to the literature regarding the interaction between e-WOM and motivation to touch. We found that online reviews have a special influence when the motivation to touch is low. When the tactile input is not important for product evaluation, consumers especially value the information generated by other consumers. However, if consumers are motivated to touch (either internally or externally), they rely more on the information obtained by themselves through touching the products than on interpersonal sources.

Managerially, all these findings should be taken into account by (multichannel) retailers to implement strategies to manage and drive the customers’ traffic towards physical stores. We argue that one of the main reasons for consumers to research information online and visit the physical store is to make purchases with a high degree of confidence. Thus, retailers operating through multiple channels should provide with the optimal information resources to create a seamless and unique experience across the different channels. Moreover, companies must bear in mind the effects of the online positive reviews made by their customers on potentially new ones. In addition, both multi-channel and traditional retailers could benefit from innovations to provide customers with free WiFi access or by creating in-store digital touchpoints. Finally, the results regarding the motivation to touch suggest that retailers should allow consumers to access other customers’ reviews, especially when the motivation to touch the product is not high, given that touching the product may not provide with valuable information beyond confirming...
physically what has been seen online. When the motivation touch is high, consumers rely on the information they obtain through the tactile input to evaluate products and make a decision. In situations in which the motivation to touch is high (e.g., apparel stores), it seems less plausible that customers rely on recommendations made by anonymous customers, given that they are obtaining highly diagnostic information by themselves.

LIMITATIONS AND FUTURE RESEARCH LINES

Despite the importance of our findings to marketing research and practice, this research has several limitations that need to be acknowledged and addressed in future research lines. First, the two studies are experiments performed in artificial laboratory settings, in which participants were given only one preselected alternative and were forced to choose between two similar products. Although this narrow focus has served for our research purposes, the context on analysis should be broadened. Specifically, when consumers search for product information, they usually create a consideration set of alternatives that are compared by using several criteria (e.g., Engel et al., 1995; Bettman et al., 1998). Furthermore, in a cross-channel shopping context, consumers decide not only about the product but also about the retailer where the purchase is carried out. In addition, we have studied one combination of the online and physical channels in a two-stage purchase process. Although the reverse path (i.e., showrooming) is less frequent than webrooming experiences, there is a need to investigate this growing shopping pattern. Future studies should investigate the impact of online reviews in showrooming and how mobile technologies influence these behaviours. It would be interesting to analyse how consumers use their mobile devices in stores and with what purposes, given that it is virtually impossible for firms to control this usage (Verhoef et al., 2015). For example, consumers may search for information in the store and simultaneously search on their mobile device to get more information about offers or better deals in other physical stores or websites. Thus, consumers may use their mobile devices to search for different types of information depending on the purchase situation.

Second, with the aim of keeping our scenarios as realistic as possible, only one positive customer review has been used. It is plausible to think that the consumer will consider visiting the physical store to purchase a product, which receives positive feedback, rather than negative, from other online customers. However, future studies could directly manipulate the reviews’ valence. The effects of online customers’ negative opinions may be stronger and more influential than positive reviews (e.g., Chen and Lurie, 2013). In this way, it would be interesting to analyse how a negative customer opinion may change the dynamic generated in a webrooming purchase experience, especially when the e-WOM communication is received at the physical store, and this confirmatory process is close to an end. Moreover, the review used in our studies came from an anonymous source. The characteristics of the reviewer can have a great impact on the consumer’s trust in the review, and therefore on its influence on the search experience and purchase decision (Lee et al., 2006; Park et al., 2007; Racherla et al., 2012). Thus, further research needs to be conducted to analyse the impact of the reviewer’s characteristics on the relationships proposed, such as the degree of similarity or the social tie between the reviewer and the consumer (Brown and Reingen, 1987), and how these recommendations interact with those made by the salespeople at the physical store.

Third, we have assumed that the cross-channel purchasing is a highly involving behaviour, because the consumer exerts cognitive and/or physical effort to reduce uncertainty and make the decision with a high degree of confidence. However, we did not measure or manipulate the consumers’ involvement, which has been acknowledged as an important moderator of the customer experience (Puccinelli et al., 2009). Future research could analyse how the combination of the online and offline channels, and the influence of online reviews, are affected by the consumers’ involvement. The motivation to touch may also be positively related to the involvement with a product or purchase situation.

ACKNOWLEDGEMENTS

The authors are grateful for the financial support received from the Spanish Ministry of Economy and Competitiveness (ECO2012-36031) and Gobierno de Aragón (S46).

BIOGRAPHICAL NOTES

Carlos Flavián holds a PhD in Business Administration, and he is a Professor of Marketing in the Faculty of Economics and Business Studies at the University of Zaragoza (Spain). His research has been published in several academic journals, specialised in marketing (Psychology & Marketing, European Journal of Marketing, Journal of Consumer Marketing, Journal of Strategic Marketing, International Journal of Market Research, etc.) and new technologies (Information & Management, Industrial Management and Data Systems, Internet Research, etc.).

Raquel Gurrea holds a PhD in Business Administration, and she is an Associate Professor in the Faculty of Economics and Business Studies at the University of Zaragoza (Spain). Her main research lines are online consumer behaviour and multichannel behaviour. Her work has been published in several journals, such as Psychology & Marketing, International Journal of Market Research, Information & Management, Computers in Human Behavior, Internet Research or Online Information Review.

Carlos Orús holds a PhD in Business Administration and is an Assistant Professor in the Faculty of Economics and Business Studies at the University of Zaragoza (Spain). His main research lines are online consumer behaviour and how consumers combine the online and offline channels during their purchasing behaviour. His work has been published in several journals such as Psychology & Marketing, Computers in Human Behavior, Online Information Review or European Journal of Information Systems.
Appendix

Items used in the questionnaires

<table>
<thead>
<tr>
<th>Scales</th>
<th>Reliability</th>
<th>Exploratory factor analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Item-total correlation</td>
<td>Cronbach’s α</td>
</tr>
<tr>
<td><strong>Search-process satisfaction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) I found the information search</td>
<td>0.782 (0.775)</td>
<td>0.935 (0.863)</td>
</tr>
<tr>
<td>process frustrating (R)</td>
<td>0.797 (0.691)</td>
<td>0.910 (0.874)</td>
</tr>
<tr>
<td>(2) I found the information search</td>
<td>0.861 (0.690)</td>
<td>0.835 (0.835)</td>
</tr>
<tr>
<td>process interesting</td>
<td>0.815 (0.767)</td>
<td>0.900 (0.877)</td>
</tr>
<tr>
<td>(3) After this information search process,</td>
<td>0.882 (0.761)</td>
<td>0.937 (0.873)</td>
</tr>
<tr>
<td>I think I would make the right decision</td>
<td>0.772 (0.773)</td>
<td>0.872 (0.881)</td>
</tr>
<tr>
<td>(4) I am satisfied with my</td>
<td>0.855 (0.630)</td>
<td>0.923 (0.782)</td>
</tr>
<tr>
<td>information search experience</td>
<td>0.796 (0.687)</td>
<td>0.888 (0.825)</td>
</tr>
<tr>
<td><strong>Choice confidence</strong></td>
<td>0.870</td>
<td>0.935 (0.863)</td>
</tr>
<tr>
<td>(1) I am confident in my choice</td>
<td>0.752</td>
<td>0.857 (0.857)</td>
</tr>
<tr>
<td>(2) I am certain about my choice</td>
<td>0.662</td>
<td>0.813 (0.813)</td>
</tr>
<tr>
<td>(3) I believe that I have made the right choice</td>
<td>0.706</td>
<td>0.842 (0.842)</td>
</tr>
<tr>
<td>(4) I am convinced about my choice</td>
<td>0.783</td>
<td>0.881 (0.881)</td>
</tr>
<tr>
<td><strong>Website diagnosticity (only Study 1)</strong></td>
<td>0.636</td>
<td>0.823 (0.823)</td>
</tr>
<tr>
<td>(1) The information offered by this website is helpful for me to evaluate the product</td>
<td>0.752</td>
<td>0.901</td>
</tr>
<tr>
<td>(2) The information offered by this website is helpful in familiarising me with the product</td>
<td>0.647</td>
<td>0.842</td>
</tr>
<tr>
<td><strong>Review trustworthiness</strong></td>
<td>0.934</td>
<td>0.928 (0.928)</td>
</tr>
<tr>
<td>(1) The information in the review was dependable</td>
<td>0.861</td>
<td>0.914</td>
</tr>
<tr>
<td>(2) The information in the review was honest</td>
<td>0.767</td>
<td>0.847</td>
</tr>
<tr>
<td>(3) The information in the review was reliable</td>
<td>0.770</td>
<td>0.855</td>
</tr>
<tr>
<td>(4) The information in the review was sincere</td>
<td>0.847</td>
<td>0.912</td>
</tr>
<tr>
<td>(5) The information in the review was trustworthy</td>
<td>0.851</td>
<td>0.904</td>
</tr>
</tbody>
</table>

Online product information and customer review (Study 1)

![Image of Nokia N97 Mini phone with a review]

Figure 3. Online Product Information and Customer Review (Study 1).
Physical presentation of products (Study 1)

![Rival product](image1) ![Target product](image2)

Figure 4. Physical presentation of products (Study 1).

Online product information (Study 2)

![PVC strap bag, Matte finish. White ornament and edging. Frontal pocket with horizontal zip fastener. Adjustable strap and handle. Customised with the university logo.](image3) ![USB memory stick with 4GB capacity. Rotatory system. Available in black and white colours. Customised with the university logo.](image4)

Figure 5. Online Product Information (Study 2).

Mobile app and online customer reviews (Study 2)

![This Bowling strap bag is very convenient. Besides of using it for going to class, I also use it for going to the gym or to carry out some luggage for a short trip, though I could use some extra space. I recommend it!](image5) ![This USB memory stick works fine. It has a fancy design and is less common than other models. It is relatively light. I've been using it for a while and I had no problem with it, though I could use some extra capacity. I recommend it to everyone.](image6)

Figure 6. Mobile App and Online Customer Reviews (Study 2).


Peck J, Childers TL. 2006. If I touch it I have to have it: individual and environmental influences on impulse purchasing. Journal of Business Research 59(6): 765–769.


Verhoeft PC, Kannan PK, Inman JJ. 2015. From multi-channel retailing to omni-channel retailing: introduction to the special issue confidence in the webrooming process.


Brand growth in packaged goods markets: Ten cases with common patterns

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ABSTRACT

The study examines 10 consumer goods brands that grew market share year on year, to identify if there are commonalities in the way that key brand performance metrics change during growth. The study uses consumer panel data from the UK and USA. Ten brands in a range of categories are examined. Brand metrics of penetration, repeat-purchase loyalty, cross-purchasing by other brand’s buyers, the distribution of purchase frequency, and the brand’s market share within buyer subgroups are analyzed. The principal findings are as follows: (1) as these brands grew, brand penetration increased far more than repeat-purchase loyalty on average; (2) the most apparent change in the buyer base was the big increase in light or infrequent buyers; (3) they induced more cross-purchasing from most or all other competitor brands’ buyers; and (4) they grew their market share in all buyer demographic groups. Implications are that brand growth strategies should be geared towards enlarging the size of the customer base, with less emphasis on boosting loyalty. The results also suggest that specifically targeting certain sorts of buyers may be counterproductive. These findings challenge traditional assumptions in relation to brand growth and success.

INTRODUCTION

Most established brands have fairly stable sales and market share from year to year. This stability means most brands do not grow or decline markedly in such time periods. It follows that brand growth must be fairly difficult to achieve. Therefore, marketers and academic researchers may be able to glean useful knowledge from examining brands that have grown. However, analyzing “success stories,” to try to determine cause and effect relationships, is fraught with the dangers of false interpretation and halo effects – as per Rosenzweig (2007). A safer yet still informative approach is to study what happens as brands grow, in terms of their key performance metrics. Understanding how those metrics change as growth occurs may be very informative as to how growth can be achieved.

This study identifies 10 diverse consumer goods brands that grew their market share year on year in stable categories. It examines how key brand metrics changed over the period of growth. The metrics are brand penetration and repeat-purchase loyalty; the distribution of purchase frequency, that is, the breakdown of light/medium/heavy buyers; the extent of cross-purchasing by buyers of other brands; and the demographic composition of the customer base. The study finds several common patterns across the brands studied. First, they grew principally in penetration and less so in loyalty – in eight of 10 cases. Second, their growth was accompanied by more light, medium, and heavy buyers, but most noticeably, by light buyers. Third, their growth was accompanied by increased cross-purchasing from most or all other competing brands; and finally, these brands grew in all buyer demographics. The implications are that growth, for brands in consumer goods contexts, requires a focus on enlarging the size of the customer base, rather than unduly focusing on loyalty. That said, the analysis did find that when these brand’s penetration grew, they also performed better by 3 percentage points at retaining their past year’s buyers. Secondly, a growth strategy should encourage more buyers of all competing brands to buy the focal brand, rather than specific competitors. Third, to attain growth appears to require the attraction of new buyers from all demographics, rather than focusing on selected targets. The study now reviews past work to contextualize the series of research questions.

BACKGROUND AND LITERATURE REVIEW

Managers generally have an objective of growth – in metrics such as unit sales and revenue, and profit (e.g., Shipley, 1985). Despite the widespread pursuit of growth objectives, competitive pressure means unless one’s market is growing, growth in units or dollars can be difficult to achieve. Indeed, studies often report brand sales and market share tend to be fairly stable in established markets (e.g., Dekimpe and Hanssens, 1995; Srinivasan and Bass, 2000). However, some brands do grow, and there may be valuable marketing knowledge in examining and understanding these occurrences.

A brand may engender growth in many ways – for example, lowered prices relative to competitors, more or better advertising, expanded distribution, or improved product formulation, among other possibilities. The efficacy of changes to these marketing mix elements will depend on the specific market situation. Indeed, the way in which brand growth occurs may differ according to the marketing mix. For instance, enhanced price competitiveness can potentially result in growth via brand switching from competitors (Gupta, 1988), thereby increasing the number of occasional brand buyers. However, a lower price might also entrench the brand somewhat more in the repertoires of its existing buyers. Therefore, the outcomes, in terms of increased brand penetration versus brand loyalty, are open to conjecture. Next, advertising can be used as a mechanism to reach current buyers and non-buyers to inform and remind them about...
the brand and thereby prompt purchase. Current buyers are reportedly more likely to notice a brand’s advertising (Romaniuk and Wight, 2009; Harrison, 2013); therefore, growth could potentially occur via increasing the weight of purchase from current customers. However, most brands have many more non-users than users (Ehrenberg, 2000). Consequently, even with lower levels of advertising recognition among non-users, their greater numbers could mean the sales effect of advertising is more purchases from those who were previously non-buyers, driving penetration more than loyalty. Additionally, expanding distribution, which makes a brand available at more locations (Farris et al., 1989), might result in brand growth principally by enlarging the brand’s user base. Finally, product improvements could spark brand growth and arguably would be noticed more by current brand buyers. Therefore, that aspect of the marketing mix could work via strengthening buyer loyalty rather than through customer acquisition.

These hypothetical examples illustrate that in theory, brand growth might arise in different ways and from numerous marketing mechanisms. Given that in many cases, brand managers could be implementing several such strategies simultaneously, isolating exactly how growth occurs is difficult. Accordingly, the purpose of this study is not to determine how brands grow, but to examine what happens as they grow. The focus is on the changes that occur in several key brand metrics as brands grow. Each of the examined metrics is linked to strategy choices. The outcomes of the study should therefore produce implications for brand strategy.

The composition of sales
A brand’s sales depend on how many customers it has, and how much of it they buy in a time period (Ailawadi et al., 2001; Ehrenberg et al., 2004). In theory, growth for a brand could therefore arise from acquiring more buyers or inducing one’s current buyers to buy more — that is, heightened purchase loyalty. Growth can occur from increasing the brand’s market share or from growth in the product category. That said, most established grocery categories are reasonably stationary in terms of total sales from year to year (Dekimpe and Hanssens, 1995); therefore, this study considers the question of brand growth in stable categories.

A fundamental question for the brand manager is, which of these metrics of penetration and purchase loyalty changes more as a brand grows? Another basic question is how the brand’s distribution of light, medium, and heavy buyers might change as it grows. There is a well-established empirical finding, namely, that the distribution of purchase frequency for categories, and brands, invariably follows a negative binomial distribution (NBD) (e.g., Chatfield and Goodhardt, 1975; Morrison and Schmittlein, 1988). In packaged goods markets, the NBD takes a reverse-J shape, with large numbers of light brand buyers and fewer medium and even fewer heavy buyers in a time period such as a year. Therefore, does a brand, when it grows, induce more growth at the light end of the buyer spectrum or the heavy end, or both equally? Some limited evidence exists as to this issue, which will be later canvassed, but it is a sorely neglected area. Third, brands in a category tend to share their customers with each other approximately in line with brand size (e.g., Ehrenberg et al., 2004). Does that pattern suggest that as growth occurs, the brand attracts more customers from all other brands? If there is empirical support for this proposition, it would suggest a revision of the idea that brands must focus on specific competitors (e.g., Lehmann and Winer, 1991) from which they will take market share. Finally, there is a widespread view that brands need to define a target market (e.g., Dibbs and Simkin, 1996; Cahill, 1997). However, as brands grow, do they attract more buyers from a target group or more of every sort of buyer?

The next section examines past empirical and conceptual work on these issues to ascertain what is known and not known about them. That review forms the basis of a series of research questions.

Brand penetration and loyalty
As mentioned previously, two key brand metrics are penetration and loyalty. Brand penetration is the proportion of consumers that buy the brand at least once in a time period (Ehrenberg, 2000). Loyalty is defined in numerous ways, both behavioral and attitudinal (e.g., Jacoby, 1971; Oliver, 1999; Sharp et al., 1999). The focus here is repeat-purchase loyalty, and more specifically share of category requirements (SCR) (Bhattacharya, 1997). The reason for this focus is managerial relevance: it is repeat-purchase behavior that translates directly to sales revenue and profits. SCR is the average number of times buyers of Brand A buy it, divided by the average number of times those Brand A buyers purchase the category. For example, if shoppers who buy Mars bars buy them three times in a year on average and buy chocolate bars 10 times on average, the SCR for Mars bar is $\frac{3}{10} = 30$ percent.

In relation to the relative contribution of penetration versus loyalty (such as SCR) for growth, many authors suggest growth should come from more efficiently pursuing existing customers — that is, a loyalty strategy. For example, Hallberg (1995, p. 72) uses Pareto-style analysis as a basis to claim “the most likely path to growth is not … new buyers. Rather it is retaining high-profit buyers … and continuing to grow their loyalty.” Aaker and Joachimsthaler (2000) outline how brand success is underpinned by building brand equity, one key component being brand loyalty, with a priority being to “strengthen the size and intensity of the loyal segment” (p. 17). This statement implies that under such a strategy, a growing brand would see a large increase in the size of its loyal customer base, and presumably a reduction in the proportion or number of disloyal customers. Osenton (2002) echoes Reichheld (1993b) in stating that because acquisition is expensive, and retention is inexpensive, then retention or loyalty should be emphasized over building brand penetration. Indeed, the author states “acquiring a higher percentage of each customer’s business will gain momentum as a principal marketing focus for all companies in the 21st century”

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1. Note that the term “non-buyer” in a packaged goods context does not necessarily mean a shopper who has never bought the brand. Rather, it may refer to shoppers who have not bought the brand in a previous time period such as 52 weeks.
Brand growth in packaged goods markets

(p. 47). Kapferer (2008) discusses three growth options for a brand – growth from existing customers, from innovation, or by cross selling. Two of the three options plainly implicate existing customers as the source of growth. Keller and Lehmann (2009) echo the well-known Ansoff Matrix to suggest there are three routes to brand growth: market penetration, namely, how to increase sales to current customers by buying or using it more; market development, namely, new customers via new channels; or product development. Based on that strategy prescription, growth by simply attracting new, non-buyers from the current market and channel is not a feasible strategy. Wind and Mahajan (1981) suggest four growth options ranging from increasing brand penetration with no change to loyalty to three permutations of loyalty increase with no penetration increase. Therefore, there are certainly viewpoints in the literature that growth can, or should, arise from heightened loyalty rather than increased brand penetration.

Expectations

Some expectations as to what would occur as a brand grows have been extrapolated from the well-known NBD-Dirichlet model (Fader and Schmittlein, 1993; Ehrenberg, 2000) and its associated double jeopardy (DJ) pattern. The DJ pattern is an empirical regularity that large brands (large market share and large buyer bases) enjoy more loyalty than smaller brands (Ehrenberg et al., 1990; Habel et al., 2005; Labeaga et al., 2007). The extrapolation is that because brands (when analyzed cross-sectionally, in a time period such as a year) vary more in penetration than loyalty, then as brands grow they should, on average, exhibit a greater change in penetration than loyalty by a factor of approximately 4:1 (Allsopp et al., 2004). Ehrenberg et al. (1990) discuss a hypothetical brand growth scenario using this logic. They extrapolate from an existing DJ pattern to estimate what would occur if a particular brand grew; from their calculations, the brand’s penetration would increase more than purchase frequency by a factor of 8:1 (p. 88). However, some caution is needed when extrapolating from the cross-sectional DJ relationships to hypothesize about longitudinal relationships. First, as econometric literature shows, cross-sectional associations between variables may be completely different to the inter-relationships they exhibit over time (Greene, 2011, ch. 11). The next note of caution is that the NBD-Dirichlet is a model that assumes stationarity (Goodhardt et al., 1984; Meyer-Waarden and Benavent, 2006); that is, brand and category sales are assumed to be stable. Therefore, the cross-sectional relationships between brand metrics established from the NBD-Dirichlet body of work may not necessarily be extrapolated to conditions where brands are growing. For instance, a stable brand with 5 percent market share may not have the same penetration and loyalty metrics as one that has grown from, for example, 3 to 5 percent in the past year. The reason is that the growing brand may have attracted new buyers who have not yet repurchased it; hence, its loyalty metrics could be temporarily lower. Third, the DJ effect is an approximation – many brands have penetration and loyalty metrics that are not exactly as predicted by DJ. That is, they have higher loyalty than expected or lower loyalty than expected (e.g., Bhattacharya et al., 1996; Pare and Dawes, 2011). Therefore, if some brands have unusual loyalty levels, could their past growth have involved only a change in loyalty, or perhaps only a change in penetration? These considerations emphasize the need to empirically examine cases of brand growth, rather than merely extrapolate from cross-sectional relationships between brand metrics.

Given the potential drawbacks of making inferences about growth from cross-sectional data, insights can be gained from a small number of empirical studies that have examined what changes occur to loyalty versus penetration as brands grow. Baldinger et al. (2002) examined the relative changes in penetration and loyalty among growth brands in Canada. They concluded penetration had a more robust association with brand growth than did loyalty. Dawes (2009b) examined a dozen brands that grew in the USA year on year and arrived at a similar conclusion. Anschuetz (2002) reported a growing dairy brand in the USA grew the size of its customer base far more than the amount bought per buyer. However, Ailawadi, Lehmann and Neslin (2001), albeit in a study of decline rather than growth, found brand loyalty to be a more prominent factor than penetration in market share change. Riebe et al. (2014) concluded brand growth came more from unusually high rates of customer acquisition than unusually low rates of defection. While their study was not in the context of packaged goods (the focus of this paper), their findings infer that penetration should change more than loyalty rates as brands grow. Finally, Romanik et al. (2014) regressed penetration and loyalty metrics on market share change across a sample of over 1000 brands. They found penetration had a stronger relationship with brand growth than did loyalty. However, there is not a great deal of knowledge as to how changes occur in penetration versus loyalty metrics under conditions of brand growth. That shortcoming in knowledge, and the literature appearing to favor loyalty as a route to growth, suggests more investigation is justified. Therefore, Research Question (RQ)1 is as follows.

*RQ1*: When a brand grows in market share from one year to another, how much does penetration change in comparison with SCR?

While the focus of this study is packaged grocery goods, some literature from the customer relationship management domain is pertinent to the discussion. That literature examines potential revenue and profit growth arising from managing retention and therefore customer duration – for example, Reinartz and Kumar (2003), Venkatesan and Kumar (2004), and Drèze and Bonfret (2009). The issue of retention has occasionally been discussed for packaged goods brands.
(e.g., Pointer Media Network, 2009), with concern being raised that many brands show marked drops in customer loyalty year to year among their heavy buyers. However, such drops in loyalty are actually a manifestation of regression to the mean (Barnett et al., 2005). That is, customers identified as heavy at a point in time tend to revert down to their longer-term average buying propensity. The deficit in sales from this down-weighting is balanced by non-buyers and light buyers who revert upward to their long-term average propensity to buy the brand (e.g., Morrison and Schmittlein, 1988). The brand can remain quite stationary with this up-weighting and down-weighting occurring at the individual household level. That all said, if a brand increases its market share from one year to another, which involves higher penetration, the penetration growth will be assisted if the brand performs better on retaining its Year 1 buyers into Year 2. The reason is that more of the Year 2 buyers attracted will be incremental, rather than merely replacing Year 1 buyers who do not re-buy in Year 2. Therefore, as a supplementary analysis to RQ1, the study will calculate the proportion of a brand’s Year 1 buyers buying it again in Year 2 and compare these proportions under two conditions: when the brand grows in Year 2 versus when its market share stays stable.

**DISTRIBUTION OF PURCHASE FREQUENCY**

The term “distribution of purchases” refers to the relative incidence of purchase rates in a time period – how many buyers buy once, twice, thrice, and so on. Many decades ago, Ehrenberg (1959) reported that category purchase rates followed an NBD. For the typical grocery category, this distribution can be described as “reverse-J” shaped – large numbers of infrequent purchasers on the left side of a histogram and progressively smaller numbers of medium and heavy purchasers. The same distribution is invariably found for brands (Ehrenberg, 2000, ch. 4). For managers interested in growth, an important question is as follows: when a brand grows, how does this distribution change? According to the argument that loyalty will drive growth, most change should occur at the heavy (right) end of the distribution of purchase frequencies. If penetration is more of a factor, a more pronounced change at the light or infrequent left end of the distribution will be evident. However, if one does usually observe an NBD for brand purchase frequencies and assuming the brand has at some stage grown to its present size, then the NBD pattern should be relatively well preserved under growth. Alternatively, it might be argued that the NBD pattern might be temporarily disrupted from growth, by either higher purchase rates or an influx of new, possibly light buyers and will return to its equilibrium state later. Few studies have examined this important issue. Dawes (2011) compared the distribution of purchase frequencies for smaller and larger brands in the same category to conclude that growth involves more light, medium, and heavy buyers, but of those, the big change must be in the numbers of light buyers. Anschuetz (2002) reported the change in distributions (e.g., how many more light and medium buyers) for one brand as it grew, but the categorizations of purchase frequency were quite broad; and only one brand was examined. Little other research has examined how the distribution of purchase frequency might change as a brand grows. Therefore, RQ2 is as follows:

**RQ2: How does the distribution of brand purchase frequencies change from one 52-week period to another, for a brand that has grown in market share?**

**BRAND CROSS-PURCHASING OR PURCHASE DUPLICATION**

The term cross-purchasing refers to consumers who buy Brand A and also buy Brands B, C, D, and so on in a time period. A closely related term is purchase duplication – the extent to which a buyer of Brand A is “duplicated” or is also part of the buyer group for Brands B, C, D, and so on (Ehrenberg, 2000). There is wide evidence that most buyers in packaged goods categories spread their purchases out among a repertoire of brands over a time period such as a year (e.g., Uncles et al., 1995; Ehrenberg et al., 2004). Moreover, when the cross-purchasing of individual consumers is aggregated to the brand level, a strong empirical pattern is evidenced, namely, that brands share their customers with each other approximately in line with their penetration or size. In other words, a brand will share more of its customers with other big brands and less with other small brands. The pattern has been quite ubiquitous, such that it has been coined the “Duplication of Purchase (DoP) Law.” Examples of this finding are reported for grocery brands (e.g., Uncles and Ehrenberg, 1990), quick-service restaurants (Lynn, 2013), retail stores (e.g., Keng and Ehrenberg, 1984; Wrigley and Dunn, 1984; Keng et al., 1998), and store types (Uncles and Kwok, 2008) as well as durables such as cars (Colombo et al., 2000).

The DoP Law has widespread empirical support. Yet there are exceptions to the general pattern, whereby some brands share their customers with certain other brands to a greater extent than expected. These exceptions usually comprise brands sharing a functional similarity to each other, for example, in terms of formula or packaging type for brands or location for stores (Wrigley and Dunn, 1984). Such exceptions can indicate that there is a coherent structure to a broad product category with sub-types competing more intensely with each other (e.g., Grover and Srinivasan, 1987; Cooper and Inoue, 1996). Therefore, there is a substantial body of work on the topic of brand switching, partitions, and market structure. A generalized finding, as mentioned earlier, is that brand size (generally measured as either brand penetration or market share, which in turn is highly correlated with brand penetration) is a strong factor underlying the extent of switching or sharing between brands as well as that partitions may occur among brands that share a functional similarity (e.g., Grover and Srinivasan, 1987; Carter and Silverman, 2004). However, work to date on this topic has examined groups of brands in a static analysis – that is, examining the extent of sharing/switching among a group of brands in a fixed time period. There has been no work extending the
knowledge from these static analyses to examine how cross-brand purchasing changes from period to period as brands grow. For example, as a brand grows, does it induce more switching or duplication from all the other brands in the market, or only specific ones? Furthermore, if a brand is partitioned with one or more competitor brands, when it grows, does it attract an undue amount of extra sharing from those others in the partition? No study has explicitly examined these important questions, and as argued earlier, there are shortcomings in simply extrapolating from static analyses. Moreover, research into the short-term effects of marketing mix changes suggests that switching patterns established under stationary conditions might not hold for conditions of growth. For example, several studies find price cuts by higher-priced brands tend to steal sales from other high-priced brands and lower-priced ones (Blattberg and Wisniewski, 1989; Allenby and Rossi, 1991), but not the reverse. This evidence suggests the possibility that brand growth may occur at the expense of specific brands, in apparent conflict with the DoP Law. Resolving this issue will undoubtedly be of interest to managers of brands as well as academics who study brand metrics. Accordingly, RQ3 is as follows:

RQ3: When a brand grows, does it induce more purchase sharing from all other brand’s buyers or only from certain brands?

Growth in all buyer groups or only in selected targets

An extensive literature suggests that to ensure success, management of a brand requires segmentation, targeting, and positioning (STP) (e.g., Kotler and Keller, 2006; Keller, 2008). The overall STP prescription can be encapsulated as follows: the brand manager analyzes which part of the population of buyers could be attractive, selects a specific buyer group or groups to target, and develops a differentiated positioning to appeal to the needs and desires of the targeted group (see also Rossiter and Bellman, 2005, ch. 3). The implication of the STP approach is that particular brands should appeal to particular groups of people. However, several large-scale empirical investigations have reported that competing brands in a product market tend to appeal to largely similar groups of buyers, in terms of demographics, attitudes, or psychological profiles (Hammond et al., 1996; Kennedy and Ehrenberg, 2001b, 2001a; Uncles et al., 2012). Another example is the work of Dawes (2009a), which found sportswear brands tended to appeal to similar user groups, based on either simple demographic splits or more elaborate market segmentation classifications. The conclusion was big brands were big in all demographics and small brands were small in all demographics. However, all such studies undertake a cross-sectional analysis examining the existing user base of each brand; there is almost no research pertaining to how the composition of the buyer base might change as a brand grows. One study, over 50 years ago reported that a growing brand grew “pro rata in each of the demographic subgroups” (Goodhardt and Ehrenberg, 1967, p. 156). Since then, no published studies have examined how a growing brand attracts either additional sales from specific groups or additional sales across the spectrum of buyers. An argument could be made that as a brand grows it unduly attracts from particular buyer types, then over time, other groups buy more of the now larger brand and its profile reverts to being very similar to that of competitors. For example, it has been found that older consumers tend to have higher brand loyalties (Lambert-Pandraud et al., 2005) and younger ones lower loyalty, albeit the effect is contingent on the product category (Wood, 2004). Moreover, there is some evidence that newer and growing brands tend to have a somewhat younger customer base (Anderson and Sharp, 2010). Therefore, a growing brand could arguably attract a disproportionate amount of its growth from younger buyers. Knowing if and how the brand’s customer base changes under conditions of growth would be illuminating for managers planning growth strategies. Therefore, RQ4 is as follows:

RQ4: When a brand grows, does it attract additional sales from all buyer groups or from specific ones?

Given that RQ1 poses the question as to the relative change in brand penetration and loyalty, it is important to choose a measure for RQ4 that will reflect brand growth among buyer groups from changes in either penetration or loyalty. Therefore, the measure used is market share within each buyer group. For example, a brand may have 10 percent market share overall; among small households, it has 8 percent, whereas among large households, it has 12 percent. If a brand grows—regardless of from penetration, loyalty, or both—one can ascertain if that growth has come more from small or large households by comparing the brand’s before-and-after market share figures among both household types. Market share within each demographic has the appealing characteristic that it ties in with the brand’s overall market share—a key performance metric (e.g., Wind and Mahajan, 1981; Barwise and Farley, 2004).

Data sources

The analysis is based on consumer panel data kindly provided by Kantar and also data from the IRI academic database (Bronnenberg et al., 2008). These sources cover the UK and USA, respectively. The Kantar data comprises over 15,000 households who report their purchases via home scanning. The IRI data are from two midsized US cities with an average panel composition of over 5000 households. As such, all purchases made in supermarkets for consumption in the home are captured, along with related information such as whether the item was on a temporary promotion, its selling price, pack size, and so on.

The research questions involve a wide variety of performance metrics and pertain specifically to growing brands. Therefore, the approach was to examine in depth a set of brands that showed appreciable growth from one year to another. Data from 14 UK and 7 US categories were examined. Growing brands were identified by tabulating category sales, brand sales, and market shares for the top 20 brands in each category. Instances of market share growth from one year to another were noted. Market share was measured in units. Unit share correlated with revenue share at $r=0.95$. The criteria for selecting brands for the analysis were as follows: (a) the brand had to be present in the market at least a full year prior, thereby...
excluding newly launched brands; (b) there is market share growth of at least one market share point in the year; and (c) the growing brand kept its higher market share in the next year or grew again in the next year. From an examination of 420 brands, 10 brands that met these criteria were identified (although for one brand, Goodfella’s, data were not available for the year following its market share gain). Ten was deemed to be an adequate number from which to identify if there are indeed common patterns in brand growth. While a one-point market share gain may not seem high, evidence shows brand shares are usually quite stable over time periods of several years (Dekimpe and Hanssens, 1995; Graham, 2009). Therefore, a one-point gain in a year is notable, and particularly so because the brand either grew again in the third year or at least stayed at the higher share level for one further year. One other selection criterion was that the product category did not grow or decline appreciably. The reason for excluding categories that appreciably grew or declined is that changes in the number of category buyers would obscure the relative changes in brand penetration and SCR as well as bias the distribution of brand purchase frequency. The growth brands to be examined are listed in Table 1.

The measures used in the analysis are now listed.

**Measures**

*Penetration* This is the proportion of households who bought the brand at all, in a one-year time period.

*Brand loyalty* The specific measure used is SCR. SCR is calculated as the number of purchases of the brand in a one-year period by its buyers divided by their purchases of the category in that time period (Ehrenberg et al., 2004).

*Distribution of purchase frequency* This is the number of brand buyers who bought it one time, two times, three times, and so on in a one-year time period.

*Cross-purchasing* This is, for any Brand A, the proportion of buyers of Brands B, C, D, E, and so on who also buy Brand A in the one-year time period.

*Market share in demographics* This refers to the brand’s share of sales within specified demographic classifications. The procedure is to firstly calculate total category sales made by each demographic group, for example, small households, and then calculate the focal brand’s total sales within that group. Brand market share in the demographic is calculated as brand unit sales/category unit sales. The procedure is repeated for all demographics of interest. Market share among demographics allows for a measure of brand performance that controls for the differing rates at which various demographic groups buy the category (Dawes, 2006). If the brand grows unduly among any particular demographic group, the result is quite apparent in its yearly market share figures for that group.

**Demographic groups**

*Younger/older* For the UK, younger is defined as the main shopper aged under 35 years; older is defined as the main shopper aged over 35 years. For the USA, ages fall into six categories. A median split was used to demarcate the groups, whereby a younger shopper is aged up to 44 years, and those above that were classed as older.

*Smaller/larger household* For the UK, smaller households are those comprising one to two people, larger households include three or more people. For the US data, there are six size classes; these were split so as to have the bottom three (one, two, and three people) as small households and more than three people as larger households.

*Blue collar/white collar* For the US data, this classification is straight from the IRI data dictionary that classifies every household according to occupation type.

*Lower wealth/higher wealth* For the UK, income data are not provided but social class is. Lower wealth is defined as C2, D, and E social class, while higher wealth is A, B, and C1. In the US data, household income is classified into 12 levels, and the median (Level 7) provided the split, leaving six classes as low income (up to $34,999 per annum) and over that point classified as higher income.

*Gender* The analysis of a dog food brand examines growth among male and female owners.

**Analysis method**

To address RQ1, the procedure was to tabulate brand penetration and SCR figures for each brand in the 10 categories. The tabulations were performed for Years 1 and 2. The differences in penetration and in loyalty between Years 1 and 2 were calculated. These differences were converted to percentage changes using the formula \((Y2 - Y1)/Y1 \times 100\). The percentage changes for all 10 categories were averaged to determine which metric changed more in percentage terms.

Research Question 2 was addressed by first calculating the number of one-time buyers, two-time buyers, three-time buyers, and so on for Years 1 and 2 for each brand. The difference in these buyer classifications from Years 2 to 1 was calculated as simply \(Y2 - Y1\). They were then calculated

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**Table 1. Growing brands**

<table>
<thead>
<tr>
<th>Brand</th>
<th>Category</th>
<th>Country</th>
<th>Growth in market share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Arm &amp; Hammer</td>
<td>Laundry</td>
<td>USA</td>
<td>9–11%, 2004–2005</td>
</tr>
<tr>
<td>2 Cameron’s</td>
<td>Coffee</td>
<td>USA</td>
<td>8–11%, 2008–2009</td>
</tr>
<tr>
<td>3 Asda</td>
<td>Dog food</td>
<td>UK</td>
<td>3–5%, 2006–2007</td>
</tr>
<tr>
<td>4 Francesco</td>
<td>Pasta sauce</td>
<td>USA</td>
<td>9–11%, 2002–2003</td>
</tr>
<tr>
<td>5 Michelob</td>
<td>Beer</td>
<td>USA</td>
<td>7–10%, 2002–2003</td>
</tr>
<tr>
<td>6 Pantene</td>
<td>Shampoo</td>
<td>USA</td>
<td>9–10%, 2004–2005</td>
</tr>
<tr>
<td>7 Patak’s</td>
<td>Cooking sauce</td>
<td>UK</td>
<td>3.2–4.2%, 2010–2011</td>
</tr>
<tr>
<td>8 Goodfella’s</td>
<td>Frozen pizza</td>
<td>UK</td>
<td>5–6.5%, 2006–2007</td>
</tr>
<tr>
<td>10Wells</td>
<td>Yoghurt</td>
<td>USA</td>
<td>8–11%, 2002–2003</td>
</tr>
</tbody>
</table>
as a percentage of the total additional Year 2 buyers. The percentages were then tabulated in Table 3 and graphed.

The analysis method for RQ3 was firstly to create purchase duplication tables (e.g., Keng et al., 1998) for each category for each of the two years. Then, for the growing brand in each category, the analysis method is to calculate the difference in the proportion of other brand’s buyers who bought it in Year 2 compared with those who bought it in Year 1.

For RQ4, the procedure was to calculate the growing brand’s market share in each demographic group for Years 1 and 2 and then calculate the difference in its market share in each group as \( Y_2 - Y_1 \).

**RESULTS**

Penetration and share of category requirements

Changes in penetration and loyalty are discussed first. The before-and-after results for the 10 brands’ penetration and SCR are shown in Table 2. The results show that brand penetration grew far more than loyalty. The changes are shown in absolute and proportional terms. The reason is that the range of penetration is far wider than SCR. Therefore, the ratio of absolute penetration change to loyalty is biased down if penetration is small, but proportional changes are biased upward if penetration is small (e.g., a penetration change of 1 to 2 is only 1 in absolute terms but 100 in proportional terms). The overall results from the 10 growth brands are that penetration changed more than SCR loyalty by a factor of 2.6 to 1 in absolute terms. In proportional terms, penetration changed more than SCR loyalty by 7.9 to 1. That said, there were two brands that showed larger changes in SCR than in penetration – Francesco Rinaldi and Stouffer’s.

The overall result adds evidence that the primary metric that changes as a brand grows is penetration, with loyalty changing to a lesser extent. Note that this finding does not imply loyalty is unimportant to a brand. A brand’s sales depend on how many buyers it has, and how much they buy. For the remaining six brands was to identify all buyers of the particular brand in each year and calculate the proportion that bought it again in the following year. This was performed for year-on-year periods of stability and year-on-year periods of growth. The retention results for growth and stability periods respectively were 66 and 70 percent for Stouffers, 57 and 54 percent for Michelob, 64 and 62 percent for Wells, 61 and 56 percent for Arm & Hammer, 59 and 52 percent for Francesco, and 53 and 43 percent for Pantene. On average, the brands retained 60 percent of their previous year’s buyers when they grew and 57 percent when they remained stable. Therefore, as a brand grows, its penetration changes much more than its SCR does, but achieving a higher penetration level is helped somewhat by a slightly higher retention of the previous year’s buyers.

**How many buyers buy once, twice, and so on?**

Examined next is the change in the buyer base – specifically, how many more households buy the brand once, twice, three times, and so on in the second year compared with the first year. The result for one brand is tabulated for illustration in Table 3. Examining Table 3 for Goodfella’s pizza, we see that in Year 1, the brand attracted 1119 one-time buyers (in the panel), 496 two-time buyers, 201 three-time buyers, and so on. In Year 2, the brand attracted 1646 one-time buyers (an increase of 527), 860 two-time buyers (an increase of 364), and so on. The total number of additional buyers is 1380. It is apparent from reading down the third column in Table 3 that there are large increases in infrequent buyers and progressively smaller increases in frequent buyers. In proportional terms, 38 percent of the additional buyers bought the brand just once, 26 percent twice, and so on.

**Table 2. Changes in brand penetration and loyalty**

<table>
<thead>
<tr>
<th>Brand</th>
<th>Market share</th>
<th>Penetration</th>
<th>SCR</th>
<th>% change penetration</th>
<th>% change SCR</th>
<th>Absolute change penetration</th>
<th>Absolute change SCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm &amp; Hammer</td>
<td>9</td>
<td>11</td>
<td>19</td>
<td>25</td>
<td>36</td>
<td>40</td>
<td>32</td>
</tr>
<tr>
<td>Cameron’s</td>
<td>8</td>
<td>11</td>
<td>13</td>
<td>15</td>
<td>42</td>
<td>41</td>
<td>20</td>
</tr>
<tr>
<td>Asda Dog Food</td>
<td>3</td>
<td>5</td>
<td>5.5</td>
<td>9.8</td>
<td>34</td>
<td>37</td>
<td>78</td>
</tr>
<tr>
<td>Francesco Rinaldi</td>
<td>9</td>
<td>11</td>
<td>31</td>
<td>33</td>
<td>21</td>
<td>23</td>
<td>6</td>
</tr>
<tr>
<td>Michelob</td>
<td>7</td>
<td>10</td>
<td>14</td>
<td>18</td>
<td>49</td>
<td>48</td>
<td>30</td>
</tr>
<tr>
<td>Patak’s</td>
<td>3.2</td>
<td>4.2</td>
<td>6.6</td>
<td>8.3</td>
<td>29</td>
<td>29</td>
<td>26</td>
</tr>
<tr>
<td>Goodfella’s</td>
<td>5</td>
<td>6.5</td>
<td>10</td>
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<td>21</td>
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<tr>
<td>Stouffers</td>
<td>31</td>
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<td>36</td>
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<td>48</td>
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<tr>
<td>Wells</td>
<td>8</td>
<td>11</td>
<td>14</td>
<td>23</td>
<td>32</td>
<td>33</td>
<td>64</td>
</tr>
<tr>
<td>Average</td>
<td>7.9:1</td>
<td>3.5</td>
<td>3.6</td>
<td>1.1</td>
<td>2.6:1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Percent changes are calculated as \((\text{Year 2} - \text{Year 1})/\text{Year 1}) \times 100.
Table 3. Distribution of one purchase, two purchases, and so on for Years 1 and 2, Goodfella’s Pizza (truncated at 12 purchases per annum)

<table>
<thead>
<tr>
<th>Number of purchases of Goodfella’s per year</th>
<th>No. of households making that number of purchases</th>
<th>Incremental number of buyers in Year 2</th>
<th>% of incremental buyers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>Year 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1119</td>
<td>1646</td>
<td>+527</td>
</tr>
<tr>
<td>2</td>
<td>496</td>
<td>860</td>
<td>+364</td>
</tr>
<tr>
<td>3</td>
<td>201</td>
<td>388</td>
<td>+187</td>
</tr>
<tr>
<td>4</td>
<td>123</td>
<td>229</td>
<td>+106</td>
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<td>5</td>
<td>60</td>
<td>130</td>
<td>+70</td>
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<td>6</td>
<td>39</td>
<td>60</td>
<td>+21</td>
</tr>
<tr>
<td>7</td>
<td>26</td>
<td>62</td>
<td>+36</td>
</tr>
<tr>
<td>8</td>
<td>19</td>
<td>40</td>
<td>+21</td>
</tr>
<tr>
<td>9</td>
<td>17</td>
<td>41</td>
<td>+24</td>
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<tr>
<td>10</td>
<td>11</td>
<td>23</td>
<td>+12</td>
</tr>
<tr>
<td>11</td>
<td>5</td>
<td>14</td>
<td>+9</td>
</tr>
<tr>
<td>12</td>
<td>6</td>
<td>9</td>
<td>+3</td>
</tr>
<tr>
<td>Total</td>
<td>2122</td>
<td>3502</td>
<td>1380</td>
</tr>
</tbody>
</table>

Table 3 showed the increase in one-purchase buyers, two-purchase buyers, and so on for one illustrative brand. The following series of histograms show the increases for all the analyzed brands (Figure 1). To make comparisons easy, the Y-axis in these charts is the proportion of the additional number of households that bought the brand in Year 2. For example, if 100 extra households bought the brand and, of those, 20 only bought it once, this is represented as 20%. The X-axis is the number of times those households bought the brand in Year 2. All the charts show the same general pattern: the most marked change is the large increase in light buyers, a smaller increase in medium buyers, and so on. There are also increases in heavy buyers, but because the initial numbers of those are so small, the increases are hard to identify visually. This finding complements the initial results for penetration and loyalty: the big change in brand penetration is principally in infrequent brand buyers who buy the brand once or twice in a year. That said, the specific breakdown of these extra buyers is not the same in every case. For instance, the coffee brand Cameron’s has more one-time and two-time buyers, slightly fewer three-time and four-time buyers, and a large increase in six-time and seven-time buyers. In part, this result could be because the brand is small and there is inevitably some variation in results caused by sampling variation. However, the overall pattern of results
in the histograms is very clear: the most marked increase is in the light end of the buyer spectrum.

CROSS-BRAND PURCHASING

Now we turn to changes in cross-brand purchasing – the proportion of buyers of any Brand A who also bought Brands B, C, D, and so on in a period of time. Table 4 shows the initial extent to which each competitor brands’ buyers buy the focal brand. For example, for Pantene in Year 1, we see that 10% of Alberto buyers also bought Pantene, 17% of Clairol buyers also bought Pantene, and so on, for an average across the top eight brands of 11 percent cross-purchasing. In Year 2, the now bigger Pantene now attracts one point more cross-purchasing from Alberto, no more from Clairol, seven points more from Garnier, and so on. As Pantene grows, it attracts more cross-purchasing from six of the eight large competitors, with the average level rising from 11 to 14 percent. The pattern is very similar for the other growth brands. For instance, Goodfella’s induces more cross-purchasing from every other pizza brand; and Wells induces more cross-purchasing from buyers of every other yoghurt brand. Overall, these 10 growing brands attracted more cross-purchasing from 69 of their 72 collective competitors. Therefore, there is a clear overall pattern: as a brand grows, it gets a larger proportion of most or every other competitor brand’s buyer base to also buy it. The finding is in contrast to theoretical discussions about a brand that will likely have one or two key competitors to which it must pay particular attention (e.g., Lehmann and Winer, 1991). The present study is the first to explicitly show how brand growth results in increased cross-purchasing by the buyers of most or all competitor brands.

Demographics

Finally, the analysis examines changes in brand share among buyer demographics. Again, the results are very clear as shown in Table 5. Take the example of Pantene – it grows its market share by one point, and it grows in every demographic: in younger buyers and older buyers, albeit less among older buyers; it grows its share among lower-income buyers as well as higher-income buyers, in larger and smaller families, and in blue-collar and white-collar workers. The same is true for Wells yoghurt; its gain of around three points is fairly uniform in all the demographic groups. Patak’s growth is somewhat less uniform, with a smaller gain in older families than in young ones, but it still gained a share in every demographic listed.

To conclude the analysis, a series of checks were conducted to ensure the changes in brand metrics seen are indeed attributable to the market share changes. For example, one might suggest these brands could exhibit changes in penetration or SCR without market share changes – although that would require the changes in penetration and SCR to be directionally opposite (i.e., penetration increase and SCR decrease or vice versa). Another hypothetical alternative is that brands could show changes in the level of cross-brand purchasing without changes in their market share being evident (perhaps showing higher proportions of cross-brand purchasing, but the buyers of other brands allocate less of their loyalty to the cross-purchased brand, for instance). To examine these possibilities, metrics for the 10 growth brands were examined in other time periods within which their market shares were static. In all cases, there were no changes in penetration, SCR, distribution of purchase frequency, cross-brand purchasing, or market share within demographics outside the margin of random variation due to the size of the household panels. Therefore, when the market share of these brands changed, these metrics changed – in the systematic way described. When their market share was stable, these metrics were stable. Therefore, we can be confident that the pattern of results from this study is attributable to market share growth and not other factors.

DISCUSSION

A synopsis of the findings is as follows:

1. Brands that grow in market share grow much more in penetration than in loyalty.
2. Growing brands gain more light, medium, and heavy buyers – but the most noticeable increase is in the light, that is, infrequent, buyer group.
3. Brand growth is accompanied by increased cross-brand buying from the buyers of most or all competitor brands.
4. Growing brands tend to grow their market share in all buyer demographics.

The study raised a possible caution about taking cross-sectional relationships between brand performance measures and extrapolating them to the dynamic case of brand growth. The empirical results suggest in this instance that extrapolation would have been fairly safe. The ratio of penetration change to SCR change across these 10 brands in absolute terms is approximately 2.6 to 1, similar to past analysis using cross-sectional data (Sharp and Allsopp, 2003; Allsopp et al., 2004).

Next, the findings suggest that brands that grow do so by increasing their appeal ‘across the board’ – being bought more by every sort of buyer. They do not grow by engendering markedly higher loyalty among the current customer base. Loyalty does increase when the brand grows, but seemingly not by very much – in line with the long-standing observation that brand loyalty varies much less among competing brands than does brand penetration (e.g., Ehrenberg et al., 1990). Additionally, the brand as it grows attracts more light, medium, and heavy buyers – but the most noticeable change is at the light end – large numbers of additional buyers buying once or twice a year. The finding represents a substantial piece of knowledge for brand managers – what sort of activities should they engage in to drive penetration, that is, to bring in many new buyers, most of whom will buy the brand quite infrequently? Such a prescription for growth might seem alarming and certainly counterintuitive for marketers used to reading about the desirability of loyalty as a path to growth (e.g., Reichheld, 1993a; Reichheld and Teal, 1996), but it is based on quite clear empirical evidence. Indeed, the conclusion that brands grow by attracting more of all sorts of buyers seems to fly in the face of textbook wisdom about carefully selecting...
Table 4. Cross-purchasing by other brand’s buyers, Years 1 to 2

<table>
<thead>
<tr>
<th>Product</th>
<th>Brand</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shampoo (USA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of brand’s buyers who also bought Pantene</td>
<td>Alberto</td>
<td>10</td>
<td>11</td>
<td>+1</td>
</tr>
<tr>
<td></td>
<td>Clairol</td>
<td>17</td>
<td>17</td>
<td>+0</td>
</tr>
<tr>
<td></td>
<td>Garnier</td>
<td>14</td>
<td>21</td>
<td>+7</td>
</tr>
<tr>
<td></td>
<td>Head &amp; Shoulders</td>
<td>13</td>
<td>10</td>
<td>−3</td>
</tr>
<tr>
<td></td>
<td>L’Oreal</td>
<td>13</td>
<td>24</td>
<td>+11</td>
</tr>
<tr>
<td></td>
<td>Private Label</td>
<td>6</td>
<td>12</td>
<td>+6</td>
</tr>
<tr>
<td></td>
<td>Suave</td>
<td>10</td>
<td>14</td>
<td>+4</td>
</tr>
<tr>
<td></td>
<td>Whiter</td>
<td>7</td>
<td>8</td>
<td>+1</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>11</td>
<td>14</td>
<td>+3</td>
</tr>
<tr>
<td>Pizza (UK)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of brand’s buyers who also bought Goodfella’s</td>
<td>Dr. Oetker</td>
<td>20</td>
<td>24</td>
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</tr>
<tr>
<td></td>
<td>Goodfella’s Deli</td>
<td>29</td>
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<td>Asda</td>
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<td>Tesco</td>
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<td>35</td>
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</tr>
<tr>
<td></td>
<td>Chicago Town</td>
<td>20</td>
<td>25</td>
<td>+5</td>
</tr>
<tr>
<td></td>
<td>Iceland</td>
<td>18</td>
<td>22</td>
<td>+4</td>
</tr>
<tr>
<td></td>
<td>McCain</td>
<td>18</td>
<td>23</td>
<td>+5</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>22</td>
<td>28</td>
<td>+6</td>
</tr>
<tr>
<td>Yoghurt (USA)</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>% of brand’s buyers also bought Wells</td>
<td>Yoplait</td>
<td>20</td>
<td>30</td>
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<td></td>
<td>Dannon</td>
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</tr>
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<td></td>
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<td>27</td>
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</tr>
<tr>
<td></td>
<td>Old Home</td>
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<td>33</td>
<td>+11</td>
</tr>
<tr>
<td></td>
<td>Kemp’s</td>
<td>33</td>
<td>39</td>
<td>+6</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>27</td>
<td>35</td>
<td>+8</td>
</tr>
<tr>
<td>Frozen dinners (USA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of brand’s buyers also bought Stouffers</td>
<td>Banquet (main)</td>
<td>44</td>
<td>49</td>
<td>+5</td>
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<tr>
<td></td>
<td>Banquet (sub-brands)</td>
<td>41</td>
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<td>Healthy Choice</td>
<td>73</td>
<td>75</td>
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<td>Swanson</td>
<td>52</td>
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<td>Weight Watch.</td>
<td>64</td>
<td>71</td>
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<td>Uncle Ben’s</td>
<td>73</td>
<td>78</td>
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</tr>
<tr>
<td></td>
<td>Average</td>
<td>58</td>
<td>64</td>
<td>+6</td>
</tr>
<tr>
<td>Dog food</td>
<td>Aldi</td>
<td>10</td>
<td>19</td>
<td>+9</td>
</tr>
<tr>
<td></td>
<td>Butchers</td>
<td>15</td>
<td>21</td>
<td>+6</td>
</tr>
<tr>
<td></td>
<td>Chappie</td>
<td>16</td>
<td>17</td>
<td>+1</td>
</tr>
<tr>
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<td>Lidl</td>
<td>16</td>
<td>29</td>
<td>+13</td>
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<tr>
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<td>Winalot</td>
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<td>20</td>
<td>+5</td>
</tr>
<tr>
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<td>All others</td>
<td>17</td>
<td>18</td>
<td>+1</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>15</td>
<td>22</td>
<td>+7</td>
</tr>
<tr>
<td>Coffee (USA)</td>
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<td>+2</td>
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<tr>
<td></td>
<td>Maxwell House</td>
<td>11</td>
<td>18</td>
<td>+6</td>
</tr>
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<td>Store Brand</td>
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<td>Hills Bros</td>
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<td>+2</td>
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<tr>
<td></td>
<td>Eight O Clock</td>
<td>29</td>
<td>39</td>
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</tr>
<tr>
<td></td>
<td>Dunkin Donuts</td>
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</tr>
<tr>
<td></td>
<td>Berres</td>
<td>40</td>
<td>44</td>
<td>+4</td>
</tr>
<tr>
<td></td>
<td>All others</td>
<td>19</td>
<td>26</td>
<td>+7</td>
</tr>
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<td></td>
<td>Average</td>
<td>22</td>
<td>26</td>
<td>+4</td>
</tr>
<tr>
<td>Beer (USA)</td>
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</tr>
<tr>
<td></td>
<td>Leinenkugel</td>
<td>19</td>
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<td>+5</td>
</tr>
<tr>
<td></td>
<td>Michelob</td>
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<td>27</td>
<td>+5</td>
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<tr>
<td></td>
<td>Bud Light</td>
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<td>27</td>
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</tr>
<tr>
<td></td>
<td>Miller</td>
<td>16</td>
<td>26</td>
<td>+10</td>
</tr>
</tbody>
</table>

(Continues)
a target segment. Based on the findings here, the target segment might not need to be more tightly defined as simply those who buy the category. One might argue that demographic classifications are an inadequate representation of the latent or unobservable “segments” or clusters of buyers in the population and therefore that more sophisticated schemes such as psychographics or lifestyle might be better suited to portray such segments if they exist. Such a line of argument seems logical—but first, past research has found little evidence for brands appealing to different attitudinal-based (Uncles et al., 2012) or lifestyle segments (Dawes, 2009a). Furthermore, the analysis here finds that these growing brands were bought more by the buyers of most or all competitor brands, which is not consistent with the concept that brands appeal to distinct psychographic segments. The finding is consistent with the theory that brands in a category are reasonably substitutable with each other (e.g., Ehrenberg, 2000) and that their differences in market share are due to differences in mental and physical availability (Sharp, 2010), not differentiation (e.g., Ehrenberg et al., 1997).

Overall, the results suggest that to grow, a brand needs to become more salient to very large numbers of consumers who either do not buy it at all or buy it very rarely. In turn, this conclusion strongly implies that marketers’ extensive use of tools such as in-store price promotions (Nijs et al., 2010) and loyalty programs (Leenheer et al., 2007) may not be optimal and that they should reinvest in mass-reach media (e.g., Sharp, 2010).

CONCLUSIONS

The study has analyzed the important topic of brand growth and found quite consistent patterns in terms of what occurs as brands grow. Past studies have analyzed changes in penetration and loyalty metrics, but no studies to date have examined the comprehensive set of metrics used here. The findings will help managers understand how they can grow their own brands. The study has also made a method contribution by taking the well-known analysis tools such as duplication of purchase, brand purchase frequency distributions, brand penetration and loyalty comparisons, and brand popularity in buyer subgroups from their usual static, cross-sectional usage to a two-period dynamic analysis. Further work could examine how brands with unusual performance metrics such as niche or change-of-pace brands with lower-than-expected or higher-than-expected loyalty respectively (Kahn et al., 1988; Pare and Dawes, 2011) change market share—do they tend to preserve their unusual metric composition or do they become more “normal”? Also, a number of studies have identified

Table 4. (Continued)

<table>
<thead>
<tr>
<th>Product</th>
<th>Brand</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laundry detergent (USA)</td>
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<td>26</td>
<td>35</td>
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</tr>
<tr>
<td></td>
<td>Dynamo</td>
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<td></td>
<td>Era</td>
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<td>40</td>
<td>+5</td>
</tr>
<tr>
<td></td>
<td>Private Label 1</td>
<td>31</td>
<td>37</td>
<td>+6</td>
</tr>
<tr>
<td></td>
<td>Purex</td>
<td>32</td>
<td>42</td>
<td>+10</td>
</tr>
<tr>
<td></td>
<td>Tide</td>
<td>14</td>
<td>16</td>
<td>+2</td>
</tr>
<tr>
<td></td>
<td>Wisk</td>
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<td>32</td>
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</tr>
<tr>
<td></td>
<td>Xtra</td>
<td>33</td>
<td>36</td>
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</tr>
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<td></td>
<td>Yes</td>
<td>25</td>
<td>42</td>
<td>+7</td>
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<tr>
<td></td>
<td>Average</td>
<td>29</td>
<td>36</td>
<td>+7</td>
</tr>
<tr>
<td>Spaghetti sauce</td>
<td>Ragu</td>
<td>37</td>
<td>40</td>
<td>+3</td>
</tr>
<tr>
<td></td>
<td>Hunts</td>
<td>41</td>
<td>46</td>
<td>+5</td>
</tr>
<tr>
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<td>Barilla</td>
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<td>+8</td>
</tr>
<tr>
<td></td>
<td>Classico</td>
<td>41</td>
<td>40</td>
<td>−1</td>
</tr>
<tr>
<td></td>
<td>Prego</td>
<td>42</td>
<td>43</td>
<td>+1</td>
</tr>
<tr>
<td></td>
<td>Aunt Millie</td>
<td>62</td>
<td>66</td>
<td>+4</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>44</td>
<td>47</td>
<td>+3</td>
</tr>
<tr>
<td>Cooking sauce</td>
<td>Schwartz</td>
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<td>Colman’s</td>
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<td>24</td>
<td>+4</td>
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<td>Sharwood’s</td>
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<td>Homepride</td>
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<td>Asda</td>
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market partitions – groupings of brands that compete especially intensely against each other (e.g., Kalwani, 1979; Fraser and Bradford, 1983; Carter and Silverman, 2004). The following question arises: when a partitioned brand grows, does it tend to remain in its partition or does growing involve becoming less partitioned and more appealing to every other brand’s customers? The inference arising from market structure and partition analysis to date is that a growing brand in a partition will hurt the other brands in the partition more than brands outside it – for example, a growing diet food brand will hurt other diet competitors more than non-diet food brands in the same category. But little work has examined how such market structures change over time as entities gain market share. Finally, the analysis took the concept of year-on-year retention usually used in customer relationship management or business-to-

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Note: The average of the market share figures in the tables are an unweighted average, which may therefore differ slightly to the overall market figures reported in Table 1.

Table 5. Changes in market share among demographic groups, Years 1 to 2

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business contexts and applied it to brand growth in packaged goods. The analysis found brand growth was accompanied by slightly better retention, which in turn aided the brand achieving higher penetration in its growth year. Because of data limitations, this analysis was only conducted for six brands, and so the question arises as to whether this result generalizes. Such questions are not only intriguing but would help the managers of such brands to better understand how growth occurs. This study has focused on packaged goods brands, in part because of the data availability for such markets. More of the same sort of work should be performed in other markets such as durables and perhaps services to see how the results here apply more widely. Finally, another avenue for future research would be to extend the approach outlined in the present study of growth to examine brand decline.

ACKNOWLEDGEMENTS

I thank Kantar and SymphonyIRI for making these data available. All estimates or analyses in this paper based on Kantar and SymphonyIRI Group, Inc., data are by the author and not Kantar or SymphonyIRI Group, Inc.

BIOGRAPHICAL NOTES

John Dawes, is a Senior Researcher with the Ehrenberg-Bass Institute for Marketing Science, University of South Australia. His research interests are in brand performance metrics and pricing. John works with many of the Corporate Sponsors that support the Ehrenberg-Bass Institute.

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Brand growth in packaged goods markets

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DOI: 10.1002/cb