

Institution: Durham University		
Unit of Assessment: 17 Business and Management Studies		
Title of case study: Consumer Data Analytics, Behavioural Profiling and Intervention		
Period when the underpinning research was undertaken: Between 2006 and 2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Sarah Xiao Mike Nicholson	Professor of Marketing Professor of Marketing	2006 – present 2001 - present
Period when the claimed impact occurred: Between 2014 and 2020		
Is this case study continued from a case study submitted in 2014? N		
<p>1. Summary of the impact</p> <p>Durham University research into consumer behavioural profiling and impulse buying has allowed two international marketing agencies to build novel marketing tools resulting in significant financial gains through collaborative research projects. DECIDE (Brand Consultancy Company) and KHWS Ltd. (Brand Commerce Agency) occupy Top 50 rankings (source: Mintel) within a sector of approximately 23,000 agencies, with a combined client base of approximately 400 to 500 active brands at any given time. Durham research has provided these companies with: (1) an improved approach to market research; (2) new marketing toolkits that allow companies to access potential clients in a scientific (evidenced) based way; and (3) financial gains. Indeed, between January 2015 and March 2019, the two companies had additional, direct revenues of ██████████, and there is expected to be a further ██████████ of revenue for KHWS, through creative marketing and brand campaign consultancy fees in the three years following their Knowledge Transfer Partnership with Durham. To place these increments in context, at the time of the projects, both agencies were generating annual sales revenues of around ██████████, and with less than 100 employees each. Moreover, DECIDE was previously based in North East England and has subsequently established a successful footprint in central London, while KHWS has used the tools developed to move from a purely European focus to one with a still-growing presence in the Middle East.</p>		
<p>2. Underpinning research</p> <p>The underpinning research at Durham comprised three major studies (R1, R2, and R3) that were subsequently enhanced by further Knowledge Transfer Partnership (KTP) grant funding, turning theory into practice, and resulting in adoption of the findings by the collaborating marketing agencies.</p> <p><u>1. Developing a shopping context-specific approach to marketing in retailing (R1)</u></p> <p>Retailing is very context-specific and marketing communications need therefore to be informed by an in-depth and contextualised knowledge of the consumer. As a result of the rapid development of the 'Internet of Things', contextual analyses have become much more important to marketing agencies. However, a key challenge that has remained is to determine how to map, characterise and integrate the different stages of the consumer journey, its context, and exactly how it is experienced, by analysing the consumer's actual use of multiple retail channels (e.g. instore, online store, mobile commerce). Research conducted by Xiao and Nicholson has developed a context-dependency approach that integrates consumer characteristics (e.g. attitude, past experiences, personality), usage situations (e.g. social situation, physical environment) and different triggers (e.g. promotion, packaging, brand) in the retail environment across different journeys. The unique point of this study has been its use of behavioural classes (i.e. routine and mandatory, collective and token-based, inescapable pleasure and hedonic pleasure, conspicuous and fulfilment behaviour) to map different motivations the consumer has for purchases. This combinative approach is very different from traditional psychographic approaches, which often rely on fragmented factors in the criteria used to segment usage situations, and has added real value to firms seeking to communicate with their customers in different situations. This new approach not only provides unique insights previously inaccessible to marketers, but also offers</p>		

detailed guidelines on how to map consumer situations to deliver added value across each behavioural class. In particular, the study developed a robust mixed-methodology by involving industry expertise and consumers in both online and offline contexts to provide companies with a relatively simple but accurate way to measure the salient factors. The primary emphasis has been on FMCG (fast-moving consumer goods) brands, spanning both the food (e.g. dairy, pizzas, smoothies) and non-food (razors, televisions, detergents) product categories.

2. Identifying behaviour intervention for impulse buying in consumer journey (R2 and R3)

Many marketing tactics are designed to stimulate impulsive, or at least unplanned, purchases by consumers. To date, however, firms have often found tactics such as these difficult to actually put into practice due to wide variations in campaign outcomes. The methods developed have therefore focused on applying behavioural science insights to target such tactics more precisely to the dominant behavioural patterns of market segment sub-groups. Consolidating a large body of knowledge from impulse buying research, Xiao and Nicholson mapped a large number of the key factors and triggers that increase impulse buying (including unplanned buying) during the consumer purchase journey, and associated decision-making processes. In this paper, the important factors that marketing managers need to be aware of – the interacting effects of internal triggers (e.g. urges), external triggers (e.g. adverts, promotions), and learned consumer decision rules (e.g. herd effect – social conformation), in the process of impulse purchasing – were addressed, offering clear guidelines for developing appropriate behavioural interventions (or “nudges”) for each stage of the consumer shopping journey. The paper further developed a novel conceptual framework for impulse buying research that companies can use to increase market share and revenues through more effective interventions and marketing communications. The R2 study was one of the first to propose the dynamic nature of consumer decision-making strategies during the shopping journey comprising pre-, during, and post-purchase. The R3 study used quantitative meta-analysis methods to provide a large empirical evidence base to support how triggers have worked.

3. References to the research

- R1. Xiao, S.H. & Nicholson, M (2011). Consumer consideration of non-deceptive counterfeit goods: a contingency matrix approach. *Service Industry Journal*, 31(15): 2617-2631. DOI: 10.1080/02642069.2011.529608
- R2. Xiao, S.H. & Nicholson, M (2013). A Multi-Disciplinary Cognitive-Behavioural Framework of Impulse Buying: A Systematic Review of the Literature. *International Journal of Management Review*, 15(3): 333-356. DOI: 10.1111/j.1468-2370.2012.00345.x
- R3. Iyer, G. R., Blut, M., Xiao, S. H., & Grewal, D. (2020). Impulse buying: a meta-analytic review. *Journal of the Academy of Marketing Science*, 48(3): 384-404. DOI: 10.1007/s11747-019-00670-w

Indicators of Quality

This body of work has been published in internationally recognised peer-reviewed journals and is above the 2* level.

ESRC KTP with Technology Strategy Board UK and company input: GBP135,286 (2014); the KTP was scored ‘Very Good’ upon final assessment [E2].

ESRC KTP with Innovate UK and company input: GBP165,278 (2016)

ERDF PhD studentship co-funded with company (2018)

4. Details of the impact

Through the KTPs, the two companies have used the Durham findings to develop different marketing toolkits (d360° for DECIDE; Real Time Tracking apps and Clarity Insight Tools for KHWS) which are actively supporting their business growth and development, embedding Xiao and Nicholson’s research into their working practices and daily operations. Upon starting their collaborations with Durham, these agencies were each generating annual sales revenues of approximately ██████████, and with less than 100 employees, one based in the North East of England and the other located in central London. Both have expanded their geographical footprints: DECIDE into central London, as a base for international expansion, and KHWS from a European footprint to one now encompassing large areas of the Middle East.

Methodology development for consumer journey mapping and behavioural analysis in Knowledge Transfer Partnerships (KTP)

Between 2014 and 2019, 2 knowledge transfer partnerships (KTPs) [E1-E4] with 2 marketing agencies, DECIDE and KHWS, applied the findings and results of Xiao and Nicholson's research (R1 & R2) to develop toolkits for use by the companies. Based on the behavioural situations and behavioural types identified in R1, further research carried out within the first KTP led to the development, for DECIDE, of an industry-leading tool – the d360° strategic marketing planning toolkit. This is a consumer journey mapping tool that provides nine perspectives ('lenses') through which to simultaneously tackle clients' (business customers') marketing planning and activation issues (around questions of who? what? how? when? where? and why?). The toolkit includes a shopper archetypes tool, journey mapping facilities, touch-points identification and control methods, and real-time tracking performance measures. The novelty of DECIDE's final marketing toolkit is the combination of their original product design evaluation tool (d3eclipse) with d360°, so that it can provide packaging and brand designers with both creation and consumer-relevant personalised information. The findings from R1, on understanding consumer situations, also provided a foundation to develop detailed shopper archetypes for the d360° toolkit. By integrating findings from R1, R2 and R3, a novel real-time tracking method was developed to measure consumer behaviour changes in response to specific sales triggers during the purchase journey. These were some of the first field experiments in the marketing sector using mobile phones for real time tracking, which enhanced the accuracy of prediction about when particular marketing tactics would be most/least effective during a commercial behavioural intervention. In a second KTP, the Durham team and company KHWS developed real-time mobile apps and the proprietary Clarity Insights Toolkit (CIT). The CIT is a four-stage methodology that integrates real-time consumer tracking (using context-dependending situations, R1), sales trigger identification (using the findings of R2 and R3), creative development and laboratory-testing of marketing stimuli (R1, R2, R3), with the research of Xiao and Nicholson underpinning each stage with more robust methods and a strong behavioural science evidence base.

Impact on DECIDE, a brand consultancy company

The d360° toolkit (developed from the underpinning research that encompasses shopper archetypes and insights from knowledge about consumer journeys) has had a significant impact on DECIDE, for its staff, clients, and financially. DECIDE described the KTP's influence on daily work practices [E1] as "...*impacting internal briefing sessions by encouraging creative teams to think more holistically about the target audience for their design work.*" A full-time post in strategic planning was created for the DECIDE KTP associate, once the KTP had ended, in order to continue making the changes advocated by the research.

d360° has provided direct financial gain for the company during and following the KTP (E1 and 5):

Specifically, KTP-derived knowledge, based on the underpinning research, has enabled enhanced strategic consultancy fees (i.e. for insight & research-led work or high-level design direction) to be levied on a greater number of projects [E1, E5]. The associate CEO of DECIDE commented that: "*Collaboration with DUBS and Dr. Sarah Xiao has helped cultivate and embed a more 'research-first' mindset within the entire organization of c40 employees. It enabled us to confidently pitch for, and take on consumer research projects with organizations including [REDACTED]* [REDACTED] To date, these such research projects have commanded fees in excess of [REDACTED] During the KTP (2015-2017), DECIDE's use of the developed d360° toolkits enabled direct additional revenues of approximately [REDACTED] from their clients, including leading FMCG brands [REDACTED] [E1, E5]. Since the time of the project, the KTP outputs have continued to enable DECIDE to gain further financial wins, ensuring greater business stability. DECIDE's CEO states: "*Since then however we have also been invited to present to [REDACTED]* [REDACTED] This resulted in a further [REDACTED] brief on a new global brand for DECIDE. [REDACTED] and an introduction to [REDACTED] wider brand teams for health and personal care. This has provided a platform to collaborate and a forum to support on brand activations for 2019. We are in the process

of leveraging this and are prospecting within the wider OTC health care arena with clients including [REDACTED]” [E5]. In addition to this (greater than) [REDACTED] confirmed revenue, DECIDE have continued to obtain new clients of global brands with much greater revenues on the horizon: “We have to date been invited to share the d360 approach to shopper journey planning and key insights from the KTP research with senior shopper/brand teams within large scale organisations including; [REDACTED]” [REDACTED] attests the CEO [E5].

“Furthermore, in 2018 after a lengthy pitch process, we were appointed as one of only three Shopper Marketing agencies to serve [REDACTED] entire UK brand portfolio, [REDACTED] Our knowledge of shopper, depth of understanding on shopper behaviour, and our commitment to continuous learning via academic collaboration formed a key part of our proposal. These were all considered important ‘added value’ factors in our successful appointment to the roster. [REDACTED] [CEO, E5]

Impact on KHWS, a brand commerce agency

The tools developed in the KHWS KTP have improved the company’s working practices and added new knowledge and capacities: “The KTP has exceeded all expectations and KHWS now have a distinct Value Proposition and a behavioural science based model and proprietary tools” [E4]. The Durham tools are being used to increase the effectiveness of marketing campaigns by KHWS for their clients: “Our Clarity Insight tool provides a proprietary research methodology that tells clients something they did not know about their audience’s purchase behaviour. These insights then inform our creative development to deliver marketing campaigns that resonate with the dominant purchase behaviours. KHWS are now in a position to introduce our offering to any consumer sector with the confidence it is robust and validated with academic rigor.” [E4]

In the final KTP report [E4, section 3], the CEO of KHWS stated: “Over the 2 year KTP project, we have refined our model into a very robust insight and creative execution model and tools that has provided a strong and differentiated value proposition and market position for KHWS. As a result we are attracting new clients, raising our industry profile and refining the way we deliver marketing campaigns for our existing clients. In short it has been a complete success.”

The KTP has significantly changed the way KHWS staff approach campaigns:

“Prior to the KTP, the staff in KHWS were not aware of how behavioural science could be used to enhance our offering to clients. The training we have undertaken to the staff has put our Insight model and Tools at the heart of the agency” [E4]. KHWS have trained approximately 50% of their 100 staff on the behavioural science model underpinning the Sales Trigger Compass tools, and other tools developed with Durham, through their inclusion in the staff handbook, a 2-hour course for senior staff on the tools and model which is updated every 6 months, and monthly meetings for the whole company where new examples of the tools’ use are presented. The company have a copy of the model on every desk, a 90-page guide produced by the KTP associate, and have invested in EEG (electroencephalogram) headsets and analysis software, in order to study triggers in laboratory testing.

The KTP’s new models and marketing tools enabled KHWS to make an additional [REDACTED] in sales turnover through consultancy revenues [E4, E10] during the KTP: “...The new model and tools are the key focus of our new business strategy and outbound marketing campaign. They are driving appointments with prospective new clients and enabling KHWS to work with senior stakeholders. The KTP has informed the starting point for the majority of projects for new clients i.e. Clarity Insight Tools.” Through this [REDACTED] contract, multinational corporations, comprising many household names, were indirectly influenced by the KTP research: “The [REDACTED] is made up of: [i] [REDACTED] - our insight model informed a new proposition and creative development - [REDACTED] ... [ii] [REDACTED] - developing category leadership activity in grocery, ecommerce and on trade for Whiskey, Rum and Gin categories - [REDACTED] ... [iii] [REDACTED] - developed ecommerce playbook to drive sales across major grocery ecommerce platforms - [REDACTED]” [E4]. KHWS also reported outstanding

proposals worth over [REDACTED] with [REDACTED] at the time of KTP final reporting [E4], and reported the expected sales turnover post-KTP from Durham research-enabled development as [REDACTED] (for 3 years from March 2019), from clients such as [REDACTED] [E4, E9].

External to KHWS, the tools developed in the project have been disseminated across the FMCG sector, through a series of industry reports [E6, E7, E8, E10] supported by quarterly breakfast briefings to FMCG brands in London, hosted by Andrew Watts (KHWS) and Prof. Mike Nicholson (Durham). Four commercial reports have now been published and disseminated to industry: Proceed to Checkout [E6], Proceed to Checkout 2.0 [E7], Winning at Shelf [E8], and Why would I buy that? [E10]. The average dissemination is to around 2,000 brands in the FMCG sector. Seven related events were staged over the two years of the KTP, with an average attendance of approximately 90 Brand Managers at each briefing. Professor Nicholson has also conducted bespoke workshops for key KHWS client brands including [REDACTED]

[REDACTED] The Durham partnership is prominent on KHWS's website: the homepage alone contains a link to Winning at Shelf at the top of the page, has the 'Clarity Tools' as one of 6 direct links in its header and 2 of the page's segments include the Durham collaboration (it is described in an 'Our Approach' segment, and there is a further segment dedicated to 'Winning at Shelf'). The website also has a page dedicated to the Durham collaboration [E10]. Finally, some 10 internships and 4 permanent full-time posts within KHWS have been secured for Durham students and graduates, while the toolkit developed is embedded within undergraduate and postgraduate curricula to enhance graduate employability skills.

Overall, the CEO of KHWS [E4 (p12)] described the project as *"one of the most inspiring and commercially beneficial projects I have worked on in over 30 years in the marketing industry. Not only has it delivered proprietary tools but it has led to a long term relationship with academia."*

5. Sources to corroborate the impact

E1 KTP Final Report (DECIDE, 2015 to 2017 project).

E2 KTP Final Report (DECIDE, 2015 to 2017 project) evaluation letter (dated 14 June 2017).

E3 KTP Grant Application and Work Plan (KHWS, 2017 to 2019 project).

E4 KTP Final Report (KHWS, 2017 to 2019 project).

E5 DECIDE CEO and Associate CEO Testimonial (dated 25 January 2019).

E6 KHWS/Mintel/Durham University Industry Report *Proceed to Checkout*, supported by a Mintel-sponsored report launch in London (March 2017), with 28 FMCG companies participating (report, Eventbrite event page, KHWS event news item, Twitter post).

E7 KHWS/Durham University report *Proceed to Checkout 2.0*, supported by a launch breakfast hosted by *Marketing Week* in London (7 November 2017), with 54 FMCG brand owners attending (report, Eventful event page, Twitter post).

E8 KHWS/Durham University Industry Report *Winning at Shelf*, with breakfast launch event (June 2018) on the Sales Trigger Compass tool, with over 50 brand marketers attending (report, Twitter post, screenshot of presentation video, KHWS event news item).

E9 KHWS KTP meeting records (4 February 2019).

E10 KHWS Webpages: their latest homepage placing the Durham University collaboration at the heart of their offering, dedicated web page on the work with Durham University, and the benefits the partnership has delivered, page on the *Winning at Shelf* and *Checkout* reports, page on 'Why would I buy that?'