



Engagement and Impact 2018

Monash University

MON15 (SS) - Impact

Overview

Title

(Title of the impact study)

Use of Big Data To Improve Retail Store Performance

Unit of Assessment

15 - Commerce, Management, Tourism and Services

Additional FoR codes

(Identify up to two additional two-digit FoRs that relate to the overall content of the impact study.)

Socio-Economic Objective (SEO) Codes

(Choose from the list of two-digit SEO codes that are relevant to the impact study.)

91 - Economic Framework

90 - Commercial Services and Tourism

89 - Information and Communication Services

Australian and New Zealand Standard Industrial Classification (ANZSIC) Codes

(Choose from the list of two-digit ANZSIC codes that are relevant to the impact study.)

42 - Other Store-Based Retailing

Keywords

(List up to 10 keywords related to the impact described in Part A.)

Big data

Store remodelling

servicescape

multimedia advertising

customer focused

Sensitivities

Commercially sensitive

No

Culturally sensitive

No

Sensitivities description

(Please describe any sensitivities in relation to the impact study that need to be considered, including any particular instructions for ARC staff or assessors, or for the impact study to be made publicly available after EI 2018.)

Aboriginal and Torres Strait Islander research flag

(Is this impact study associated with Aboriginal and Torres Strait Islander content?

NOTE - institutions may identify impact studies where the impact, associated research and/or approach to impact relates to Aboriginal and Torres Strait Islander peoples, nations, communities, language, place, culture and knowledges and/or is undertaken with Aboriginal and Torres Strait Islander peoples, nations, and/or communities.)

No

Science and Research Priorities

(Does this impact study fall within one or more of the Science and Research Priorities?)

Yes

Science and Research Priority	Practical Research Challenge
Advanced manufacturing	Knowledge of Australia's comparative advantages, constraints and capacity to meet current and emerging global and domestic demand.

Impact

Summary of the impact

(Briefly describe the specific impact in simple, clear English. This will enable the general community to understand the impact of the research.)

In 2009, Myer partnered with researchers from Monash Business School to formulate solutions to its strategic threats — heightened competition from online retailers and the Australian entry of overseas retail brands, and the rising costs of physical retail spaces. This led to a strong research partnership with the Monash Marketing research team. The investigators took a big data modelling approach to inform critical business decisions in the areas of allocating media spend and store remodelling. The findings: i) helped Myer optimise their media budget, maximising sales and profit; ii) showed that store remodelling positively impacts customer satisfaction and sales; and iii) created a new culture of awareness in Myer of the power of its customer data.

Beneficiaries

(List up to 10 beneficiaries related to the impact study)

Myer corporate

Myer customers across Australia

Countries in which the impact occurred

(Search the list of countries and add as many as relate to the location of the impact)

Australia

Details of the impact

(Provide a narrative that clearly outlines the research impact. The narrative should explain the relationship between the associated research and the impact. It should also identify the contribution the research has made beyond academia, including:

- who or what has benefitted from the results of the research (this should identify relevant research end-users, or beneficiaries from industry, the community, government, wider public etc.)*
- the nature or type of impact and how the research made a social, economic, cultural, and/or environmental impact*
- the extent of the impact (with specific references to appropriate evidence, such as cost-benefit-analysis, quantity of those affected, reported benefits etc.)*
- the dates and time period in which the impact occurred.*

NOTE - the narrative must describe only impact that has occurred within the reference period, and must not make aspirational claims.)

Beneficiary.

Myer is an iconic and heritage Australian brand over 100 years old. It is Australia's largest department store chain, operating 67 stores and employing over 12,500 staff and recorded FY2015 sales of \$3.2 billion. It also runs one of the most successful customer loyalty programs (MYER One) in the country, with customers visiting Myer stores 130 million times annually.

In 2009, Myer faced substantial challenges, largely from increased competition from online retailers and the Australian entry of overseas retail brands. With increasing costs of physical retail space, Myer was pressured to increase profit from its physical stores. Given these challenges, Myer sought research to help identify and pursue strategic opportunities. This agenda led to the partnership with the Monash Business School's Department of Marketing.

Nature of impact.

Monash researchers took the approach of applying specific modelling of big data (the customer data that Myer had collected through its MYER One loyalty program). The research produced critical recommendations in two

areas of strategic opportunity—media spend allocation and store remodelling, in which decisions had historically been made with little insight drawn from customer data. Both had the potential to positively impact customer sales and thus profitability. Advertising is one of the biggest-cost items for firms; hence, optimising media budgets is important. Similarly, remodelling the retail store environment is expensive; thus, understanding how remodelling effects sales is critical to future remodelling decisions.

In today's data-driven world where data is called "the oil" of the digital economy, most businesses are collecting and aggregating data into so-called "big data." However, such data provide no value if cutting-edge methods are not developed to harness their potential into sound business decisions. This project delivered its impact by: compiling meaningful panel data by combining several sources of data; and developing new multivariate statistical models to analyse large datasets emerging from digital media and customer transactions.

First, the research tracked a major multi-media advertising campaign using a research design that merged survey data with sales data from the MYER One loyalty program for about 3000 card holders. The study compared the relative effectiveness of 10 media simultaneously (prior research had studied only up to three). It developed a sophisticated advertising response model using the MYER One loyalty data and a customer-based media diary. Senior management were involved throughout the project (with Myer providing access to de-identified data, and in-kind contributions of at least \$200,000). Using these tools, Myer was able to more efficiently allocate marketing resources across a range of media, and compare the returns of investing in new media, such as the internet and social media, as opposed to traditional media, such as television and newspapers. The new econometric methods and models were underpinned by the researchers' own ARC-funded research.

Shopping is an everyday element in most people's lives. Because the in-store experience continues to have high relevance, retailers must keep their servicescapes modern, fresh, and in line with competitors. Retailers spend millions of dollars annually to create and/or remodel their store environment, to influence customer perceptions and choice. This research used sales data from the MYER One loyalty program and additionally designed and deployed an experiment in two Myer stores (as well as another smaller retail store). Using this approach, the research generated insights for Myer regarding refurbishment lifecycles and identifying the type of customer most impacted by the store refurbishment. It turns out that much bigger gains in return on investment are made from new rather than existing customers. Normally, stores are remodelled every 7–10 years and form a significant part of the capital costs for a firm. They form part of the marketing channel strategy as the look, feel and layout engages directly with customer and drives purchasing behaviour. As shopping is an important part of daily life for many people, the financial return on investment, if done right, could be substantial.

Extent of impact.

Implementing the media spend recommendations enabled Myer to optimise its tens of millions of dollars in multimedia advertising spend, including the development of an inexpensive method to help assess the relative effectiveness of multiple advertising media.

Implementing the store remodelling recommendations enabled Myer to retain customers during several significant store refurbishments with a better marketing mix, improving sales in those stores for up to 12 months post-remodelling. The research demonstrates that sales to all customers increased significantly after the store remodel. These increases ranged from 13% to 19%. In this case as well, the difference between existing and new customers was dramatic, existing customer sales increased by only 7%–10% relative to the pre-remodel period, but new customer sales increased by 43%–44%.

Effectiveness of research dissemination and translation approach

The research findings were disseminated and translated via high-quality and engaging presentations, workshops and reports to multiple levels and areas within Myer, including national support office staff in strategic and operational roles, store-based staff and the Senior Management Group. On all occasions, the CEO and/or CFO hosted the research team to demonstrate their support of the findings and translate in the context of other related organisational strategy. The CEO also reinforced that: "The research provided new insights that have informed the strategic direction of Myer". Overall, the effectiveness of research dissemination and translation approach can be seen in the new ways of Myer investigated, measured and implemented its business investments.

Associated research

(Briefly describe the research that led to the impact presented for the UoA. The research must meet the definition of research in Section 1.9 of the EI 2018 Submission Guidelines. The description should include details of:

- what was researched*
- when the research occurred*
- who conducted the research and what is the association with the institution)*

The research centred on two main topics. The first is the relative effectiveness of each of 10 media within a multimedia advertising campaign. The second topic studied the return on investment when a retail store remodels its physical store environment.

The data collection for the first topic was October 2010, around the time of Myer's annual spring sale, where they

launched a major ten-media ad campaign to promote the sale. Additional customer sales data were gathered for one year prior and three months post this period.

The second study covered the period April to December 2011 when the store refurbishment occurred. Sales data were obtained for one year before and one year after this period.

The research was conducted by Professor Peter Danaher and Professor Tracey Danaher (previously Dagger), both employed by Monash University, although Peter Danaher was employed by Melbourne Business School at the time of data collection for the first topic. However, all of the analysis and writing for publication was conducted after March 2011 when he was a professor at Monash University.

The relevant ARC grant giving partial financial support for these projects was DP 1094289 New methods for analysing marketing databases in the age of digital media (2010- 2012) ARC \$130,000.

FoR of associated research

(Up to three two-digit FoRs that best describe the associated research)

15 - Commerce, Management, Tourism and Services

14 - Economics

References (up to 10 references, 350 characters per reference)

(This section should include a list of up to 10 of the most relevant research outputs associated with the impact)

Danaher, T. S., & Danaher, P. J. (2014). Comparing the effect of store remodeling on new and existing customers. *Journal of Marketing*, 78(3), 62 - 80

Danaher, P. J., & Dagger, T. S. (2013). Comparing the relative effectiveness of advertising channels: A case study of a multimedia blitz campaign. *Journal of Marketing Research*, 50(4), 517 - 534

Additional impact indicator information

Additional impact indicator information

(Provide information about any indicators not captured above that are relevant to the impact study, for example return on investment, jobs created, improvements in quality of life years (QALYs). Additional indicators should be quantitative in nature and include:

- name of indicator (100 characters)*
- data for indicator (200 characters)*
- brief description of indicator and how it is calculated (300 characters).)*