Office for Product Safety & Standards

Trials to increase rates of consumer product registration

Report of findings

September 2023

Contents

Executive Summary

Background

Product registration enables manufacturers to contact consumers in the event of a product recall or safety event. This research developed behavioural science principles to design a trial aimed at increasing consumer registration rates of large domestic appliances and thereby improving the effectiveness of the product recall and safety system.

The scope of the research was to work within existing direct consumer approaches, either via in-box materials or at the point of sale, of new large domestic products.

Methodology

Following stages of an evidence review, primary research, stakeholder workshop and industry engagement, a trial design was implemented with Whirlpool, Beko and Domestic and General (D&G). The intervention leveraged the 'Messenger effect' through a message from the Office of Product Safety and Standards (OPSS) prompting registration alongside regular registration materials.

Against a control of existing materials, the message was tested through inclusion of a leaflet and / or co-branded materials:

> *IMPORTANT – ACTION REQUIRED*
>
> *It is vital to register your appliance with your manufacturer in case of essential product safety updates*

The Whirlpool trial contained a total of 16,233 products, distributed across three intervention groups and the control. The Beko trial contained a total of 59,081 products, distributed across the treatment and control group.

Findings

Compared to the control group, the trial with Whirlpool found a small but statistically significant increase in online registration rates when the message was included as a leaflet (2 percentage points), or as co-branded materials (4 percentage points). However, there was no impact when both were included.

Compared to the control group, the trial with Beko found a significant positive impact of 6 percentage points on online registration for the combined intervention as compared to the control.

Conclusions

It was found that a directive message from OPSS stressing the importance of registration in relation to product safety updates led to a small significant increase in the proportion of large domestic products registered online. As this was the first systematic trial within a real-world setting to test the impact of such an intervention on actual consumer behaviour, several challenges emerged which led to limitations in the robustness of the trial. As such, there are important caveats, detailed in the report, to take into account.

Background and approach

Context

The Office for Product Safety and Standards (OPSS) was created by BEIS in January 2018, setting out an ambitious strategy to strengthen national capacity for product safety.[1] The establishment of the OPSS is part of the Government's response to high-profile product safety related incidents. As the BEIS Select Committee noted, in the last decade numerous devastating fires have been caused by faulty domestic appliances such as washing machines, tumble dryers and fridge/freezers.[2] In 2016/17, 16% of all accidental fires were a result of faulty appliances. The fire in Grenfell Tower in 2017 is believed to have started with a faulty fridge, and a large fire in a block of flats in Shepherds Bush in 2016 was attributed to a tumble dryer catching fire.

Manufacturers are required to inform UK authorities of any issue that poses a serious or moderate risk to health and safety. If a risk assessment deems corrective action to be necessary, they must then inform consumers "where and to the extent it is practicable to do so" and arrange for the collection or return of products. Registration enables manufacturers to contact purchasers directly and is an effective means of informing consumers in the case of a product recall or safety event.

Research by Kantar for OPSS into consumer attitudes to product safety revealed that only 53% of consumers had registered a recent purchase of a large domestic appliance.[3] OPSS therefore wish to identify evidence-based approaches to increasing the registration of large domestic products, such as white goods and cooking appliances, to improve the effectiveness of the product recall and safety system.

Aims and objectives

OPSS commissioned Kantar Public to develop and trial interventions, leveraging behavioural principles and insight into the barriers currently preventing registration, to identify effective routes to increasing registration rates with product manufacturers.

Specifically, this work was divided into a number of stages:

1. **Insight audit:** Consolidate existing insight and expertise;

2. **Primary research:** Validate insight and explore reactions to early intervention ideas;

3. **Development:** Leverage insight and behavioural science to develop interventions;

4. **Selection:** Select those interventions deemed most feasible / likely to be effective;

5. **Trial:** Design and run a trial of the selected interventions; and

6. **Analysis:** Analyse the findings of the trial to create robust evidence of effectiveness.

This final report focuses on stages 4 – 6 above. Chapter 2 contains a brief summary of earlier stages.

---

[1]   OPSS (2018) *Strengthening national capacity for product safety: Strategy 2018-2020*
[2]   https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables#cause-of-fire
[3]   BEIS and OPSS (2020) *Consumer attitudes to product safety*

At the project outset, a number of restrictions on the scope of interventions were agreed. Mass media campaigns were explicitly ruled out due to budgetary constraints on execution, with a focus instead on working within existing direct consumer approaches, either via in-box materials or at the point of sale. The decision was also made to focus on new products rather than the second-hand market, as whilst there is certainly scope to boost registration of older products, it was recognised that this would be challenging to demonstrate as part of a controlled trial. Finally, the focus was placed on encouraging registration with manufacturers, as they bear direct responsibility for contacting consumers in the case of a product recall event and hold the most accurate purchasing data, rather than other parties, such as retailers or directly with the government.

Ultimately, the aim of this work was to deliver effective and repeatable evidence-based guidance that can be used by stakeholders within the product safety system to help boost registration rates of large domestic products, enabling more direct communication from manufacturers to product-owners in cases where a fault has been identified and there is a need for corrective action.

Overview of approach

Please note that more complete details of stages 1-3 can be found in Annex 2 of this report.

Stage 1: Insight Audit

We carried out a rapid evidence review of existing evidence into the drivers and barriers to consumers registering their white goods, structured around the Kantar Public Behavioural Framework. This included emerging insight from OPSS-commissioned mixed-method research to explore consumer attitudes to product safety being carried out concurrently to this work by Kantar Public.[4] Alongside this, we also conducted a series of ten stakeholder interviews with individuals working in or around the issue of consumer product registration, including representatives from OPSS, Trading Standards, manufacturers, retailers, and consumer bodies.

Stage 2: Primary Research

We conducted four 90-minute focus groups across London and Manchester, amongst a total of 32 consumers to validate findings from Stage 1, understand responses to current registration materials and explore responses to a range of ideas, developed based on findings from the insight audit, about how registration might be encouraged.

Findings from Stages 1 and 2 are summarised in chapter 2 of this document

Stage 3: Intervention Development Workshop

Kantar Public, OPSS and the Behavioural Science Unit at Ogilvy co-hosted a full-day ideation workshop to brainstorm ideas for consumer-facing interventions aimed at boosting rates of registration of large domestic appliances with manufacturers. The workshop was attended by 15 external stakeholders, including representatives from manufacturers, retailers, consumer bodies and Trading Standards, as well as representatives from within OPSS. Following collation, we generated a total of 46 ideas for further consideration, relating to the format, design and messaging of registration materials, alongside other wider ideas around how to encourage registration.

---

4   This work has since been published - BEIS and OPSS (2020) *Consumer attitudes to product safety*

Stage 4: Intervention selection and refinement

We engaged with partners for the trial via the Association of Manufacturers of Domestic Electrical Appliances (AMDEA), securing agreement from Whirlpool, Beko and Domestic and General (D&G) – who oversee the registration process for both manufacturers – for participation. Following consultation with these partners and OPSS on which intervention to take forward for trial, considering feasibility, cost and likely impact, we decided to take forward an intervention leveraging the 'Messenger effect', by which communications are received differently depending by whom it is being delivered, via a message from OPSS prompting registration alongside regular registration materials.

We then carried out a process of intervention design and refinement, designing and then testing an initial set of materials in a series of 30 fifteen-minute interviews with consumers. Findings were used to refine and agree upon a final set of interventions, which were then passed for production to the participating trial partners.

Details of stages 3 and 4 are summarised in Chapter 3 of this document

Stage 5: Trial design and execution

We consulted with manufacturing partners to design an approach to trialling the chosen interventions, considering their existing production and registration processes. Here we worked primarily with Whirlpool and D&G, producing a trial design document and iterating this with input from those individuals responsible for overseeing and executing the trial. The Whirlpool trial was based around a 2x2 factorial between-subjects experimental design, to investigate the effect on rates of product registration of two distinct interventions and a combination of these interventions against a control.

Having finalised a design with Whirlpool, we then consulted separately with Beko and D&G, designing a separate trial with a simpler design accounting for their distinct production processes, with one combined intervention being tested against a control.

The Whirlpool trial period ran from January 12th – December 31st 2021, with registration data collection continuing until 20th June 2022. The Beko trial period ran from the 5th February to 30th April 2021, with registration data collection continuing until 10th March 2022. During the trial execution period we collected data on a regular basis from each manufacturer.

Details of the design for each trial are contained in chapter 4 of this document

Stage 6: Analysis

Having completed the trial period, we analysed the data from each trial against two key outcome measures:

1. **Primary outcome measure:** The proportion of machines registered
2. **Secondary outcome measure:** The proportion of aftersales care products sold (to understand any unintended impact of the intervention on commercial revenue)

Analysis of the Whirlpool trial used a logistic regression model with predictors for the two interventions as well as the interaction between the two interventions. Analysis of the Beko trial used two-sample t-tests to compare the number of registrations and aftercare sales between the intervention and control groups.

We presented the results of these findings to OPSS, alongside some discussion of their meaning and potential implications for future action.

Findings for each trial are contained in chapter 5 of this document, with a discussion of these and potential implication in chapter 6.

2. Underlying insight

Introduction

Findings contained in this chapter are drawn from the initial stages of this programme of work, including:

- A rapid evidence review of the existing evidence around product registration, including prior work conducted by OPSS to understand consumer attitudes to product safety[5], and interviews with 10 stakeholders drawn from industry, trade and consumer bodies

- Primary qualitative research amongst consumers of domestic appliances (four 90 minute focus groups amongst a total of 32 consumers) to validate findings from the evidence review, understand responses to existing registration materials, and test some early ideas for how registration may be encouraged

In the remainder of this chapter, we outline some of the key insights drawn from these stages. A complete write-up of the approach and findings from this stage can be found in Annex 2 of this report.

The consumer perspective on product registration

Findings from the evidence review and primary qualitative research revealed a number of findings relating to the consumer context for product registration:

- There is currently a low salience to safety as a consideration when buying or using products, including domestic appliances, with an implicit trust in safety and government regulation.

- This tendency to discount risk is reinforced by a range of cognitive biases or assumptions, such as a tendency to prioritise personal experience over more general safety warning, optimism bias, the need to assume safety to avoid feeling overwhelmed by worries, and the belief that incidents are caused by improper usage by 'irresponsible' others.

- When consumers do consider safety issues, these are typically understood in terms of product quality, and therefore understood as an individual consumer issue to be resolved with the supplying manufacturer or retailer, with little consideration of how the fault may affect other users or carry social risks (e.g. the risk of spreading fire).

Findings also revealed a number of direct barriers to consumer product registration:

- There is currently a low awareness of the link between registration and safety amongst consumers, in large part as current registration materials do not currently mention safety considerations or product recalls.

- Registration tends to be strongly associated with the idea of activating or extending a product warranty and, whilst this is motivating for some, many are not interested in this or assume that their product is already guaranteed as part of their consumer rights.

---

[5] BEIS and OPSS (2020) *Consumer attitudes to product safety*

- There is a link for many consumers between registration and unwanted marketing and, whilst some accept this as a price to pay for extending their warranty, others explicitly reject registration on this basis.

- At present, product registration is primarily prompted at the point of installation and first use, when consumer attention is focussed on familiarising themselves with the product, which reinforces a 'present bias' – e.g. the tendency to focus on these immediate tasks rather than the uncertain future pay-off associated with product safety.

- Registration materials are typically bundled alongside instruction manuals and other materials and, besides from the stickers on the front of machines, typically have little standout.

- There is little consistency to registrations materials or processes across brands, which plays against consumers developing consistent habits in terms of their response.

The industry perspective on product registration

Findings from stakeholder interviews and engagement revealed a number of findings relating to manufacturer views on product registration:

- Amongst manufacturers there is a clear incentive to increase rates of product registration to improve the efficacy of recall responses, with an effective response linked to clear commercial and reputational benefits.

- However, efforts to increase registration are also motivated by other commercial considerations, such as the collection of marketing data and the marketing of aftercare sales via insurance partners (for example, in the case of Whirlpool and Beko, the registration process is underwritten by the sale of aftercare sales by D&G, who administer the process).

- Manufacturers are resistant to the idea of drawing an explicit link in materials between registration and safety, as it is perceived that this will raise concerns about the safety and quality of their products in relation to those of competitors – and as such manufacturers have developed the link between registration and product warranty to offer an alternative incentive for registration.

- Manufacturers have been working together through AMDEA to establish the Register my Appliance website, on which there is felt to be greater scope to talk about safety without undermining perceptions of any one brand.[6]

Findings also revealed some important insights into retailer views of registration:

- Large retailers already collect customer information for many purchases, which they are typically able to share with manufacturers in the case of a product recall event.

- Retailers were less motivated to take part in a trial, as increasing registering directly with manufacturers offers them no clear commercial advantage and also, from their perspective, little benefit to the system, as they already share information with manufacturers when needed, albeit that this process can take some time and does not therefore optimise efficacy.

---

[6]   Register my Appliance

- Retailers were also not open to the idea of point of sale (POS) or customer relationship management (CRM) material to prompt consumers to register with their manufacturer, as there is a high value placed on these channels for direct consumer marketing.

- Furthermore, as the serial number is typically not known at the point of purchase, any information that retailers hold is incomplete and is not able to link machines to a specific production run in which a fault may have arisen. Registration with manufacturers is therefore more relevant for OPSS' aims as it, in theory, allows for a greater targeting of recall efforts.

Finally, stakeholders also suggested a range of other potential channels to consider for registration in future:

- Most interviewees suggested that registration would become a more default process with growth in smart devices, which typically require registration and provide a direct channel of communication with consumers.

- A number of stakeholders mentioned the idea of a central government database for registration as a way to simplify the process for consumers – however, manufacturers were typically somewhat resistant to this idea as they wished to continue to maintain their own database of consumer information for other purposes.

Approaches to boosting registration

As part of the consumer research, we collected responses to existing registration materials, finding that:

- A sticker attached to the front of products was felt to have a greater cut-through than other materials, such as the registration document provided alongside other product documentation, which was often discarded soon after purchase, especially since instructions can now be found online.

- On prompting, materials were preferred that included a clear functional description of the benefits of registration (e.g. one year free guarantee) and clear instructions on how to do so – other materials describing more vague benefits such as 'important appliance updates' were typically dismissed as marketing.

When we exposed consumers to a clear description of manufacturers' responsibility to contact consumers in cases of the identification of a product fault, and of registration as a means to enable them to do so, we found that:

- All consumers agreed that manufacturers should be making the link between registration and the product recall system clear if the effectiveness of the system relies on proactive consumer input.

- Although the strength of responses to this current lack of information varied across the audience, all consumers expressed surprise that the provision of this information was not already enforced by government regulation.

- Once this information was made clear, consumers who were not currently registering their large domestic appliances felt that they would be more likely to do so – although many in the audience still expressed doubts about registering lower ticket electrical items, feeling that they would just pay to replace such an item in the event of a known fault, rather than go through the recall process to source a replacement.

During consumer groups, we also exposed participants to a mock-up of a leaflet branded from OPSS, directing them to register their product by visiting the manufacturer website or AMDEA's Register my Appliance service (see figure 1), an idea which we had developed through early conversations with manufacturers and OPSS (and which went on to inform the intervention eventually trialled with Whirlpool and Beko)

Figure 1 – Mock-up of an OPSS branded registration leaflet tested with consumers

Responses suggested that this idea had the potential to drive consumer registration, particularly amongst those not currently registering to activate or extend their product warranty:

- Most participants were positive about the idea, with response driven by the clear government branding, which created cut-through and a sense of credibility, and a strong call to action, with clear and measured direction about why and how to register.

- Although the Office for Product Safety and Standards was not necessarily recognised, the name of the office was felt to sound official and was appreciated for its directness and simplicity, which strongly signalled a strong purpose, and was supported by the 'official' coat of arms logo.

- The content of the leaflet was seen to be clear and instructive, with clear direction on the action required and the benefits of registration – although there was less positivity on the text regarding the relationship between Register my Appliance, AMDEA and BEIS, which was seen as irrelevant.

- Tonally, messaging was perceived to clearly raise the issue of safety without falling into 'scaremongering' or unduly worrying customers, which was a concern as, in the experience of most, products were typically reliable and unlikely to pose a safety risk.

3. Intervention development

Intervention ideation workshop

In April 2019, Kantar Public, OPSS and the Behavioural Science Unit at Ogilvy co-hosted an intervention ideation workshop to brainstorm ideas for consumer-facing interventions aimed at boosting rates of consumer product registration with manufacturers, with 15 stakeholders from manufacturers, retailers, consumer bodies and Trading Standards. A complete write-up of the full list of intervention ideas generated can be found in Annex 1 of this report.

In summary, this workshop used the MINDSPACE behavioural model to prompt the generation of a list of 46 ideas following consolidation, based around the following categories (a full list of ideas can be found in Annex 1 of this document):

- Format – What the intervention is made of

- Design – Images, layout and logos of the intervention

- Content and messaging – Intervention copy and calls to action

- Wider recommendations – Bigger ideas that may not be applicable for the trial but could be useful for future work to help encourage registration

Intervention selection

The decision about which of these interventions to take forward to trial was based on consultation with the participating manufacturers – Whirlpool and Beko – and with D&G, the organisation managing the registration process for both, alongside OPSS.

During the initial consultation, held following the stakeholder workshop, the majority of intervention ideas were rejected on the basis of cost, as they were not seen as commercially viable in the long run within a competitive market context based around narrow profit margins. For example, interventions that suggested printing registration materials on more expensive new materials; that suggested including additional items such as wallets or pens alongside materials; or that required a change in production processes such as wrapping messages around the plug, were all seen as prohibitively expensive.

Other intervention ideas were rejected on the basis that they would undermine the reputation of the participating brand or unduly worry consumers around safety. For example, the introduction of cues to indicate the possibility of danger or fire; appeals to the social benefits to registration in terms of reducing risk to those around you; and information about the number of recalls were all rejected on this basis.

Given these restrictions around cost and brand perceptions, the only intervention idea that was deemed acceptable to both manufacturers who had expressed an interest in participation in the trial was that of an OPSS co-branded message around registration. This idea had originally been developed alongside a larger group of manufacturers and AMDEA as part of the process of securing their engagement. It had also been tested with consumers as part of the primary research stage of this work, with findings indicating the potential for an OPSS co-branded message, leveraging the Messenger effect to raise the salience of safety messages; to therefore strengthen the link between registration and safety in a way that avoids the need for any particular manufacturer to deliver a message

that might undermine their brand; and to provide new motivations for registering a product (e.g. safety) beyond extending the warranty (see Chapter 2 – Approaches to boosting registration). As such, there were clear indications that it had the potential to boost rates of registration without negative commercial implications.

With the agreement of OPSS, we therefore proceeded with the development of interventions based around OPSS co-branded messages, on the basis that this idea had the best potential in terms of feasibility for implementation and scalability by brands following the trial, alongside a clear indication of potential for impact.

Intervention refinement

Having agreed upon the intervention to take forward, we proceeded with a process of intervention refinement, in consultation with the participating partners and OPSS. This process was supported by primary qualitative research exploring early iterations of the intervention amongst consumers, consisting of 30 fifteen-minute interviews conducted in London and Manchester in March 2020 with individuals representing a spread of gender, social class and previous experience of product registration. These interviews were intended to optimise early drafts of materials, identify any unintended negative consequences associated with the interventions and inform the decision about whether and how to proceed with the trial.

Early discussions with Whirlpool and Beko indicated the potential for an OPSS message to be integrated into existing registration materials. OPSS also expressed an interest in the delivery of a message on standalone materials, on the basis that this would potentially be easier to roll out and implement across other manufacturers, as it would necessitate only minor changes to production processes (e.g. the printing of one additional leaflet). We therefore developed two sets of stimulus to take forward for testing with consumers, working with Whirlpool to develop the co-branded materials in relation to their Hotpoint brand. For each intervention we also included a number of different variants in terms of wording and design (see Annex x). All materials were shown alongside the other documents received with a purchase in a plastic wallet, replicating the way in which they would be received alongside an actual purchase.

The findings from this research indicated that:

- Overall stand out was strongest for the co-branded materials, in large part due to their bright colour, although the OPSS banner was not always noticed by consumers; by contrast the black and white standalone leaflet could be recessive alongside other materials, but when it was noticed, was clearly related to OPSS.

- When prompted, OPSS branding was received positively across all materials and generally understood as an 'official' message from government, with the coat of arms supporting legitimacy and the name of the office creating a clear link to safety, even in the absence of prior familiarity.

- Given the focus on the OPSS message, the link between registration and safety was most clearly established on the standalone leaflet, through which consumers clearly understood that they were being asked to register; by contrast the prominence of the 'Free 10 year parts guarantee' message on the co-branded-materials could reduce engagement with the OPSS message, with OPSS branding sometimes interpreted as a new quality mark rather than a prompt to action.

- Overall then, the standalone leaflet was considered more likely to prompt action if noticed, although the action it prompted to register a product could be seen as

distinct from the process of activating the 10 years part guarantee as indicated on the manufacturer registration materials; by contrast, the co-branded materials were considered less likely to affect existing patterns of consumer behaviour due to their similarity to current documentation and the relatively lower salience of safety messaging.

- Messaging was best received when it was clear, explicitly about safety, directive and urgent – e.g. '*Action required*' and '*It's essential* to register your appliance…'; by contrast '*Please register*' was seen as passive, positioning registration as passive and therefore unlikely to change existing behaviours.

- Messaging about '*Important product updates'* had no clear link to safety and could therefore be negatively associated with unwanted marketing messages; by contrast '*Essential safety updates*' was considered direct and impactful, creating a clear impression that any follow-up would be related specifically to safety.

Based on these findings, which indicated no strong negative responses or unintended consequences from consumers, we therefore recommended proceeding with the trial. We also recommended proceeding with both interventions, as each indicated a different potential for success – with the standalone leaflet less likely to be noticed, but when it is noticed more likely to produce a strong link between safety and registration, and therefore create motivation to register amongst those not currently registering.

We also produced a series of recommendations for optimising materials, which were applied to the final materials taken forward for trial, as outlined in table 1.

Table 1 – Recommendations for intervention development

Standalone leaflet	Co-branded materials	Messaging
• Place leaflet back-side up in document wallet to increase standout	• Ensure OPSS banner is at the top of materials to boost salience • Increase thickness of OPSS banner, size of OPSS logo and font size to ensure standout of safety messaging	• Use messaging that is clear and directive, with a clear link to safety e.g. *IMPORTANT: ACTION REQUIRED* *It is essential to register your appliance with your manufacturer to receive important safety updates* • Keep consistent messaging across interventions, to test delivery mechanism

Intervention finalisation

Following the consumer research and agreement with OPSS to proceed with a trial of both the standalone leaflet and co-branded materials, we consulted further with manufacturers to finalise the materials to take forward for trial. Both Beko and Whirlpool were open to proceeding with all materials, although after some discussion it was agreed, on the basis that registration is not compulsory, to slightly alter the safety message to read:

IMPORTANT – ACTION REQUIRED

It is vital to register your appliance with your manufacturer in case of essential product safety updates

Having agreed on a final design for the interventions, D&G produced high quality renders of the interventions for both manufacturers, who then distributed these to their plants ready for incorporation into production processes. Beyond the OPSS message, which was inserted in place of a generic 'Register now' message in some cases, co-branded interventions were intended to emulate the 'business as usual' materials used in the control group. However, there were some minor differences in terms of colour and design of the final Whirlpool intervention materials provided. The final set of interventions for each manufacturer can be found in the next chapter on trial design and execution.

4. Trial design and execution

Introduction and outcome measures

We engaged with both Whirlpool and Beko as partners for delivery of this trial, each of whom work with D&G to oversee and administer the registration process. Each of these partners has a different profile in terms of their production and registration processes. As such, we designed and conducted two separate trials, each with a slightly different design, as summarised in table 2 below.

Table 2 – Summary of Whirlpool and Beko trial designs

	Whirlpool	**Beko**
Interventions	3 interventions plus control	1 intervention plus control
Experimental design	2x2 factorial design	Simple A/B design
Product range	Tumble dryers	Fridges & washing machines
Data collection	Via activation code	Via unique URL / telephone number

Despite these differences, each trial was designed around the same set of outcome measures:

1. **Primary outcome measure:** The proportion of machines registered
2. **Secondary outcome measure:** The proportion of aftersales care products sold

The first outcome measure was intended to measure the impact of interventions in driving registration, our key behaviour of interest. The second outcome measure was intended to measure any impact on aftercare sales, as this is a key commercial driver for D&G in the provision of registration services. As such, any negative impact on aftercare sales would need to be assessed in deciding the commercial viability of interventions.

In the remainder of this chapter, we provide further details on the design and execution of each trial.

Trial design: Whirlpool

Overarching design

This trial was based around a 2x2 factorial between-subjects experimental design (four conditions of two independent variables), to investigate the effect on rates of product registration of:

i.   Co-branding the business-as-usual registration materials with an OPSS message (i.e. co-branded vs not co-branded).

ii.   Inserting an extra OPSS-branded leaflet into the package (i.e. inserted vs. not inserted) on registration of products.

In effect, this means that there was a control group (including business-as-usual materials and no leaflet) and three intervention groups: co-branded materials only, leaflet only, and co-branded materials and leaflet (see table 3 below)

Table 3 – Whirlpool trial 2x2 factorial design

	Leaflet inserted	**Leaflet not inserted**
Co-branded materials	Group 1 (Combined)	Group 2 (Co-branded only)
No co-branded materials	Group 3 (Leaflet only)	Group 4 (Control)

Interventions

Registration card
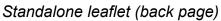*(included with product documentation)*

Registration sticker
(attached to front of product

Registration card – Control

Registration sticker – Control

Standalone leaflet (front page)

Standalone leaflet (back page)

Eligibility criteria

The trial included all Hotpoint-branded products produced at Whirlpool's Yates factory between January 12th 2021 and December 31st 2021, with the exception of any models involved in recent recall or corrective action events.

This was a deviation from the original planned dates of September 1st to November 30th 2020, due to the need to respond to the Covid-19 pandemic, which involved a temporary shutdown of the plant and a period working under strict distancing protocols, which prevented the introduction of new protocols to administer the trial. The production period that was included in the trial also needed to be extended from 3 months to 12 months, due to lower than predicted production volumes at the factory as a result of supply chain issues following from the impact of the pandemic and changes to border control processes relating to EU Exit.

Sample size

The trial included a total of 16,233 products, distributed across the three intervention groups and control. All products were tumble dryers, of either vented or condenser design, representing a range of price points.

This was a deviation from the original intended sample of 40,000 units, due to lower than expected rates of production at the Yate plant. This original sample size was determined based on the expected output at Yate during the original planned three-month production period.

Randomisation

All orders produced at the Yate plant are divided into production batches of around 96 products. Each batch was assigned to a different experimental group, rotating the order of groups across batches, with interventions introduced to products as part of this process. Batches are then mixed with each other as part of a later stage of quality assurance in the production process, prior to distribution. This process of assigning and distributing interventions was overseen and administered by Whirlpool.

The final number of products assigned to each experimental group differed slightly (Group 1 = 4222; Group 2 = 4003; Group 3 = 3788; Group 4 = 4220). This can in part be explained by the fact that not all batches contain a full 96 products.

While not strictly random, we considered this method of assignment as being "as good as" random. Effectively, it was assumed that the first unit produced in an order was no more or less likely to be registered within the trial period than the last. This was thought to be a reasonable assumption, especially given the length of the trial period. Whilst it would in theory have been possible to design the trial as a randomised control trial (RCT), for example by randomizing the sequence of intervention groups *within* batches, this was not deemed feasible in the light of production process; and would have introduced increased complexity, increasing the risk of interventions being applied in the wrong order or incorrectly recorded.

Data collection

Registration data was collected for all products registered online via the Whirlpool registration portal from the beginning of the trial period until 20th June 2022. Data was provided in an Excel file on a monthly basis by D&G. The data collection period was closed when the registration of products had reduced to the rate of only a few products within a month and registration rates across groups had remained stable for a period of two months.

The trial took place alongside the introduction by Whirlpool of unique product activation codes to registration materials. This meant that all products were assigned a unique 8-digit code as part of the production process, which was then collected during the online registration process, and allows for the automatic identification of the specific product details, including serial number. This ensures the collection of accurate and complete registration information. It also allowed us to monitor and record the specific registration status of each individual product included in the trial.

We had originally also intended to collect data for telephone registrations, which make up a significant proportion of overall registration.[7] However, given the time lapse between the training of telephone operatives and the commencement of the trial, due to the delays previously detailed, D&G telephone operatives did not register this data for a significant proportion of products. As such, the decision was made not to include this incomplete data in the trial results.

We collected interim data on an approximately monthly basis during the course of the trial period, to identify and resolve any issues with the data; and to provide interim results to OPSS. During this process, we identified 298 serial numbers that were repeated in the registered subset (there were no duplicates in the non-registered subset). We also identified 28 entries where the intervention code was N/A or where the registration method was tagged as telephone.

Statistical method

The primary analysis was comparing the registration rates of products in the control group and each of the three intervention groups. The secondary analysis was comparing the rates of sales of aftersales care in the control group and each of the three intervention groups.

For both outcomes, a logistic regression model was used with predictors for the two interventions (the use of OPSS co-branded materials and the additional OPSS leaflet) as well as the interaction between the two interventions.

---

7   According to D&G, around 60% of current registrations currently take place via telephone

Trial design: Beko

Overarching design

This trial was based around a simple A/B experimental design, to investigate the effect on rates of product registration of a combined intervention containing both co-branded registration materials and an OPSS leaflet.

In effect, this means that there was a control group (business-as-usual materials and no leaflet) and one intervention group, replicating intervention group 1 in the Whirlpool trial design outlined above.

Interventions

Registration card
(included with product documentation)

Registration sticker
(attached to front of product)

Leaflet (front page)

Leaflet (back page)

Registration card – CONTROL   *Registration sticker – CONTROL*

Eligibility criteria

The trial included a selection of products produced by Beko in their Turkey plant between 5th February to 30th April 2021. There were 18 different models included in the trial: eight refrigerators and ten washing machines. As described below, these models were sorted into pairs, with one model in each pair being randomly assigned to the intervention group and the other model assigned to the control group.

Sample size

The trial contained a total of 59,081 products, distributed across the treatment and control group.

We originally aimed for a sample size of around 40,000 products, to match our original intentions on the Whirlpool trial, although in actuality the number of products we were able to include depended on Beko's production size each month. In the end, the sample was larger than originally intended, in part as production for the trial was originally scheduled to finish at the end of March, but continued into April due to the need to fit changes to the production protocol with other changes happening at the plant. Additionally, the actual production volumes for each model varied to some degree from the original expected volumes.

Randomisation

Production at the Beko plant occurs based around orders of a specific model for delivery to a pre-specified retail channel, either a specific retailer or delivery to a warehouse in the UK for further delivery onto multiple retailers. These production runs typically number from around 500-2,500 products. In discussion with Beko, we agreed that interventions would need to be assigned to an entire production run, so that a similar process and distribution of materials could occur for every product in that run.

Beko shared their planned production schedule for each month in advance of production. We used this information to sort the eligible models into similar pairs based on the product type, sales channel, RRP and expected volumes. We then randomly selected one model

within each pair to be assigned to the intervention group, with the other model being assigned to the control group. Using this process, it was possible to assign production lines to the treatment and control group so that each group had a similar number of products overall, as well as a similar number of products assigned to specific retailers and similar average RRP each month.

We took this approach as it was practical within Beko's existing production procedures, and it minimised the possibility of error in the administration of the trial. Matching products as far as possible on characteristics that may affect whether an individual is likely to register, such as the retail price and channel, allows for a greater level of comparability across experimental groups compared to simply allocating the intervention to different production runs indiscriminately.

In the event, actual production often did not run to the original plan. This means that the treatment and control group ended up as different sizes (32,076 control vs 22,591 treatment). There was also unplanned variation across groups in in terms of the matched characteristics – e.g. RRP (recommended retail price) and sale channel – due to the shortfall of some production runs compared to others.

Data collection

Registrations materials in both the treatment and control groups were assigned both a unique online URL and a unique telephone number for registration. Data was then collected in relation to both of these channels from the beginning of the trial period until 10th March 2022. D&G were not able to supply individual product-level data and so the analysis is based on aggregated data. For online registrations, data was collected on the number of actual registrations occurring via each unique URL during this period. It was not possible for D&G to collect data on the actual registrations happening via each unique telephone number, so the number of calls received on each number was recorded instead as a proxy measure.

The data collection period was kept open until March 2022 as the Beko trial was running alongside the Whirlpool trial, which finished much later. By this time, registration had reduced to a very low level and registration rates for each group had remained stable for over two months.

Statistical method

The primary analysis was comparing the registration rates of products in the control group and the treatment group. The secondary analysis was comparing the rates of sales of aftersales care in the control group and the treatment group.

We applied two-sample t-tests to compare the number of registrations and aftercare sales between the intervention and control groups.

5. Trial findings

Whirlpool trial

Outcome measure 1: Registrations

In total, the dataset received from D&G in relation to the Whirlpool trial contained 16,181 entries, with a total of 3,647 registered products, distributed across the experimental groups as outlined in table 4 below.

Table 4 – Whirlpool trial: Registration data

Registered?	1. Combined	2. Co-branded materials	3. Leaflet only	4. Control	TOTALS
No	3,290 (78%)	3,005 (75%)	2,899 (77%)	3,340 (79%)	*12,534 (77%)*
Yes	932 (21%)	998 (25%)	889 (23%)	880 (21%)	*3,699 (23%)*
TOTALS	*4,222*	*4,003*	*3,788*	*4,220*	***16,233***

We used the following model to analyse these results:

Log[Reg / (1 – Reg)] = b0 + b1*co-branded + b2*leaflet + b3*co-branded*leaflet

The variables "co-branded" and "leaflet" were binary variables, where 0 = absence and 1 = presence of interventions.

The results, as reported in Table 5, show that both the co-branded materials (Group 2) and the leaflet alone (Group 3) seem to have a small significant positive effect on the likelihood of online registration: a 26% and 16% increase respectively in the odds of online registration.

However, surprisingly, the interventions did not appear to be effective in combination.

Table 5 – Whirlpool trial: Registration data analysis

Term	Odds Ratio (OR)	95% Confidence Interval (CI)
(Intercept)	0.26	0.24, 0.28
Co-branded	1.26	1.14, 1.40
Leaflet	1.16	1.05, 1.29

Interaction: co-branded and leaflet	0.73	0.63, 0.85

Outcome measure 2: Aftercare sales

A total of 463 sales of aftercare took place, distributed across the experimental groups as outlined in table 6 below.

Table 6 - Whirlpool trial: Sales data

Sale?	1. Combined	2. Co-branded materials	3. Leaflet only	4. Control	TOTALS
No	4,106 (97%)	3,877 (97%)	3,693 (97%)	4,094 (97%)	*15,770 (97%)*
Yes	116 (3%)	126 (3%)	95 (3%)	126 (3%)	*463 (3%)*
TOTALS	*4,222*	*4,003*	*3,788*	*4,220*	*16,233*

We used the following model to analyse these results:

$$Log[Sale / (1 - Sale)] = b0 + b1*co\text{-}branded + b2*leaflet + b3*co\text{-}branded*leaflet$$

The variables "co-branded" and "leaflet" were binary variables, where 0 = absence and 1 = presence of interventions.

These results, as reported in table 7, demonstrate no evidence of a notable impact on aftercare sales across intervention groups.

Table 7 - Whirlpool trial: Sales data analysis

Term	OR	95% CI
(Intercept)	0.03	0.03, 0.04
Co-branded	1.06	0.82, 1.36
Leaflet	0.84	0.64, 1.09
Interaction: co-branded and leaflet	1.04	0.72, 1.51

Beko trial

Outcome measure 1: Registrations

In total, the dataset received from D&G in relation to the Beko trial contained 59,081 entries, of which 5,183 products were registered online, distributed across the experimental groups as outlined in table 8 below.

Table 8 – Beko trial: Registration data

Registered?	1. Treatment	2. Control	TOTALS
No	21,846 (89%)	32,648 (95%)	54,494 (92%)
Yes	2,687 (11%)	1,900 (5%)	4,587 (8%)
TOTALS	24,533	34,548	**59,081**

These results demonstrate a significant positive impact of 6 percentage points on online registration for the combined intervention as compared to the control, statistically significant at a 5% level ($t(59079) = 24.59$, $p < .001$).

In addition to online registrations, the dataset also records a total of 12,047 call centre contacts, distributed across the experimental groups as outlined in Table 9 below. As this is a record of telephone contacts, with the potential that more than one contact was made regarding the same machine, or that contacts were not regarding registration or did not result in a registration, the percentages here should not be considered a reliable measure of the actual proportion of machines registered. However, in the absence of reports of call centre contacts regarding the intervention itself, it is probable that calls to each group were as likely to end in registration, and we have therefore reported percentages of calls made in each group as a proportion of products as an alternative proxy measure of the success of each intervention.

Table 9 – Beko trial: Call centre contact data

Contact?	1. Treatment	2. Control
Yes	6,325 (26%)	5,722 (17%)

These results demonstrate a significant positive impact of 9 percentage points on call centre contacts for the combined interventions as compared to the control, statistically significant at a 5% level ($t(59079) = 26.59$, $p < .001$).

This supports the evidence of positive impact identified for online registrations.

Outcome measure 2: Aftercare sales

The dataset recorded a total of 129 aftercare sales arising from online registrations, distributed across the experimental groups as outlined in table 10 below. Given the small number of sales, we focus here on sales within registrations (as opposed to as a proportion of total products including in each group).

Table 10 – Beko trial: Sales data

Sale?	1. Treatment	2. Control
No	2,611 (97%)	1,847 (97%)
Yes	76 (3%)	53 (3%)

These results show no evidence of a notable impact on the rate of aftercare sales.

6. Discussion and Conclusion

We found evidence that a directive message from OPSS stressing the importance of registration in relation to product safety updates led to a small significant increase in the proportion of domestic products registered online. Given the large number of appliances sold in the UK each year, this is likely to lead to a substantial increase in the number of consumers registering appliances. This was true when the message was delivered as part of co-branded registration materials (from 21% to 25% of units) or as a standalone leaflet (from 21% to 23% of units) in the Whirlpool trial. It was also true when the message was delivered as part of a combined intervention in the Beko trial (from 5% to 11% of units), although not in the Whirlpool trial, which we discuss in greater detail below. While this is a small percentage, in a large market, it can make a big impact.

There were some limitations to our approach that need to be kept in mind when interpreting results. One obvious limitation was the exclusion of telephone registrations from results, particularly as these make up the majority of current registrations – around 60% according to D&G. The Beko trial did find evidence of a statistically significant increase in call centre contacts for those products in the treatment group (from 17% to 26% as a proportion of products), suggesting the potential for the intervention to boost registrations by this channel. If this were the case, then we would expect to see some increase in the impact of interventions, although it is not possible to quantify these with the available data.

Another limitation is that we didn't have the necessary data to account for imbalance between the groups in both trials, which especially impacted the Beko trial, where was a large discrepancy between group sizes (21,486 treatment vs 32,648 control). This means there could be imbalances between groups in factors that could impact on whether a customer chooses to register their product, such as product type or RRP, and therefore introduce bias into findings.

A further limitation is that we did not have direct access to the production process to monitor and ensure fidelity of implementation. This is in part the nature of this kind of trial, where we were reliant on partners for delivery. This issue was exacerbated by the Covid-19 and subsequent restrictions on social mixing, which meant that we needed to cancel a planned visit to the Whirlpool plant (although Whirlpool did still share videos of the production process to demonstrate how the interventions was being delivered). We were also reliant on partners to produce the final interventions – and it cannot be ruled out that small differences to the design of control and co-branded materials in the Whirlpool trial may have had some influence on the impacts identified there. In a similar way, we did not have direct control over the data, which was supplied to us by D&G via the manufacturers, and as a result we were not able to verify the data ourselves.

Finally, it is worth mentioning the time period in which the trial took place, which encompassed both the Covid-19 pandemic (already alluded to above) and, for the Whirlpool trial, the end of the transition period for Britain's exit from the EU. These placed additional pressure on our trial partners, with Covid-19 in particular requiring a shift in production processes, which initially paused the trial and then required adaptations to our approach. Both events together also had an impact on supply chains for raw materials, which depressed production volumes for Whirlpool in particular, and therefore extended project timelines way beyond those originally intended. These events may also have led to atypical retailer and consumer behaviours during the period. For example, whereas

retailers typically do not keep large amounts of stock of large domestic products, instead ordering from manufacturers on a 'just in time' basis, following product shortages due to supply chain issues, they may have stockpiled more than normal, meaning that products may have taken longer to reach consumers. Consumer behaviours may have been affected, as they were subject to social distancing measures during parts of the trial period.

The trials when viewed together also produced some surprising results, in particular the discrepancy in identified impact between the combined intervention in the Whirlpool and Beko trials. One possible explanation of this would be confusion about the ordering of treatment groups in the Whirlpool trial. As we did not have direct access to the production process, as outlined above, we are not able to directly validate whether this was the case, although we have confirmed the ordering multiple times with Whirlpool and therefore think this explanation is unlikely. This therefore remains difficult to interpret.

Despite these limitations though, these were – to our knowledge – the first systematic trials within a real-world setting to test the impact of such an intervention on actual consumer behaviour, with coverage of a range of product types (tumble dryers, washing machines and refrigerators) and two separate brands, each with distinct customer bases. The fact that positive impacts were identified across both trials helps to support the external validity of findings and strengthens the argument that there would be potential for small positive impacts if interventions such as these were rolled out more widely by manufacturers. Furthermore, we found no evidence of any negative impact on rates of aftercare sales, signalling the potential for boosting registration without undermining the commercial model currently underwriting registration. The involvement of industry partners in the development and deployment of interventions is also a clear indication that manufacturers are likely to be open to ongoing implementation if they are taken forward by OPSS.

Annex 1 – full list of intervention ideas generated in stakeholder workshop

Format

1. More salient than paper

Make the registration form glossy, laminated, metal backed, thick paper stock or even black and white to distinguish it from other materials, signal its importance and help it stand out.

2. Pocket to store documents

Include a 'pocket' or wallet for the consumer to store important documents (e.g. warranty and instruction leaflets), with a salient message on the front of the pocket encouraging registration.

3. Stickers to register

Create engagement with the registration process by giving people a 'fun' task, such as sticking stickers or scratching off sections, which people tend to find enjoyable.

4. Card 'to my new owner'

Make the registration form a birthday-type card, addressed "*To my new owner*". Inside is a message promoting registration.

5. Name tag

Add a Paddington Bear style tag to the appliance to anthropomorphise it. Messaging ideas could include *"I'm not registered yet"* or *"Are you recall protected? Register me now"*

6. Cool envelope

Enclose the registration form/leaflet in a cool black envelope. To create intrigue and motivation to open it. Messaging ideas could include *"Only open once you have set up your product"*.

7. Notepad or pen

Include something more long-lasting than a leaflet, as people will be less likely to throw it away and more likely to see it more often. E.g. Notepad / pen.

X. Wrapper around the plug

Include a wrapper on or around the plug, so that you have to see the message when you plug it in.

Not taken forward as consumers unlikely to engage with installation and process of plugging in product.

X. Pre-paid postage card

Include a card with pre-paid return postage. The customer simply needs to fill in their details, seal (so info is hidden), and put in the post.

Not taken forward as already provided by manufacturers.

X. Sticker

Include a sticker on the product, promoting registration.

Not taken forward as already used by many manufacturers.

Design

8. X-Ray

Use imagery showing an 'X-Ray' image of the product, showing the wires and electronics inside in order to make it seem more liable to faults & fire. This execution could work well as part of an 'envelope' idea, or on a sticker (e.g. peel off the sticker to see the product x-rayed)

9. Attract attention

Use design cues e.g. bright/neon colours to make the safety warning messages more salient.

10. Warning to prime 'danger'

Use yellow warning signs, or a 'warning tape' design, to increase salience of the potential danger of their unregistered products.

X. Prime 'fire'

People about the danger of fire through the imagery we use.

Not taken forward as seen to have potential to cause undue panic amongst consumers, imply that registering can prevent fires and be unlikely to gain manufacturer buy-in.

X. Sentimental Value

Use imagery of emotionally-evocative items which have been destroyed, e.g. by fire (family photo albums; wedding photos; family heirlooms; etc).

Not taken forward for same reasons as above.

Content and messaging

AVERTING LOSS - SAFETY

11. Clear messaging about recalls

Make it very clear to consumers that registration is in order to be contacted in the event of a recall e.g. "By registering, the manufacturer will be able to contact you and arrange a replacement in the event of a product safety recall".

12. Make sure it lasts

Describe registration as ensuring a long-lasting product lifespan e.g. "Now you've bought it, make sure it lasts. Register so the manufacturer can fix it or replace it if there are any safety issues in future"

13. Number of recalls

State the number of products that were recalled last year, to emphasise that this does happen. Show the number of individual products (rather than number of product makes), so that the number is a very high one e.g. *"Last year 1.5 million washing machines across the UK were recalled due to safety faults, including liability to set on fire…"*

14. Just in case

Describe registration as giving people peace of mind, just in case something ever goes wrong (a bit like how travel insurance gives us peace of mind) e.g. *"Give yourself peace of mind…"*

X. Don't be a headline

Encourage people not to become a 'headline' (e.g. from a house fire), pairing the message with images of news headlines.

Not taken forward as seen to have potential to cause undue panic amongst consumers, imply that registering can prevent fires and be unlikely to gain manufacturer buy-in.

X. What would you miss the most?

Pose a hard-hitting question asking people what they would miss the most if there was a fire at their home.

Not taken forward for same reasons as above.

X. It could happen when you're asleep

Make clear to people that fires can be caused by faulty appliances at any time, not only when someone is using the appliance.

Not taken forward for same reasons as above.

SALIENCE

15. Registered on

Provide a date space for the consumer to write when their product was registered on. This makes it seem like perhaps that date could be important in future (similar to the 'safety check on…' labels) e.g. *"Registered on ……………"* (Optional addition: This would work well as a sticker on the back/side of the item)

16. This product is unregistered

Include a message stressing that product is not registered to encourage consumers to feel they need to complete the process e.g. *"This product is unregistered!"* or *"I'm not registered yet"* (Optional addition: This would work well as a salient sticker on the front of the item)

17. It's difficult to find me

Identify a problem for consumers to solve to encourage engagement e.g. "If there is a problem it's difficult for [manufacturer] to find me. Register me now so that…"

18. Act now

Remind people that it's important to act now, rather than doing it later e.g. *"Act now, before you forget"*

X. 'Quick setup guide'

Position registration within a chunked list, making registration seem a necessary or natural part of the process.

Not taken forward as already used in current registration materials

X. Make registration seem easy

Within such a list, position 'register' before a more effortful step to make it seem more appealing in comparison.

Not taken forward as already used in current registration materials

NORMS – SOCIAL RESPONSIBILITY

19. Those around you

Encourage consumers to think more socially about the benefits of registering e.g. *"Make the responsible choice – think of yourself and those around you"*.

20. Neighbours & family

Be concrete about 'those around you' to increase relevance e.g. *"Help protect your neighbours and your family"*

21. Evoke identity

Encourage registration by evoking people's sense of identity –'being' rather than 'doing' e.g. *"Be the protector" or "Be a responsible owner" or "Switch on to safety (*Optional addition: This could be taken further and the whole intervention could be designed around a 'superhero' theme, e.g. a superhero-shaped leaflet or comic strip)

X. Be a lifesaver

Stress how registration could help to save lives.

Not taken forward as seen to have potential to cause undue panic amongst consumers, imply that registering can prevent fires and be unlikely to gain manufacturer buy-in.

CONCRETENESS – DATA SECURITY

22. Not for marketing

Be very specific about the fact that details won't be used for marketing purposes.

23. All that's needed…

Emphasise that only the serial number and contact details are needed for registration, nothing more.

MESSENGERS

24. OPSS

Use OPSS as a messenger.

25. Fire Brigade

Partner with the London Fire Brigade to help convey the message, add standout and positive engagement.

X. House fire survivors

Incorporate testimonials from people who have experienced a house fire

Not taken forward as seen to have potential to cause undue panic amongst consumers, imply that registering can prevent fires and be unlikely to gain manufacturer buy-in.

RE-FRAMING – 'REGISTRATION'

26. Safety Registration Card

Frame the product registration document or leaflet as a "Safety registration card" to create a concrete shared concept.

27. Fast-Track Service

Frame product registration as enabling or entering people into a "*fast-track service*", where they can be contacted quickly in the event of a safety fault.

28. Your Recall Alert

Frame product registration as a "recall alert" to create shared language, convey benefits and create sense of urgency e.g. *"Your recall alert"* or *"Product recall alerts"* or *"Free recall alert"*

29. Product Protection

Frame product registration as "product protection" or "protection for your product".

30. Product Activation

Frame product registration as "activating" a latent service e.g. "Activate your fast-track recall service" or "Activate for recall alerts"

X. Recall card

Frame the product registration document or leaflet as a "recall card" or "safety card"

Not taken forward as inaccurately describes registration from manufacturer perspective

INCENTIVES

31. Clear explanation of recalls

Provide a clear and concrete explanation of what happens in the event of a recall.

32. Be in the know

Tell people that registration allows them to be the first to be contacted in the case of a recall e.g. *"Be in the know if there is a fault with your appliance"* or *"Register so we can contact you first"*.

33. Decoy choice

Provide a less favourable choice option; with non-registration not included in the choice set e.g. "*A) Register by phone (takes 5-10 minutes) B) Register online (immediate)"*

Wider opportunities

FORMAT

34. Break the Sticker

Position a sticker across the door of the appliance, forcing people to see and break the sticker in order to start using the appliance. Link the act of breaking the sticker to a call to registration.

35. Message on something useful

Position the message on something useful that is also relevant to the product. Ideas include a dishwasher tablet and a washing capsule.

36. Lottery entry ticket

Each product registration enters the consumer into a lottery, in which they could win prizes (e.g. tickets, money off vouchers, etc.) e.g. *"Your serial number can win you prizes. Register for your free entry into the prize lottery"*

X. Casing around the plug

Create casing surrounding the plug, encouraging the prevention of the appliance from being connected to the mains unless action has been taken. This could be supported through messaging or imagery on the plug casing.

Not taken forward as consumers unlikely to engage with installation and process of plugging in product.

CONTENT AND MESSAGING

37. Prompt broader registration

Once people register one product, prompt them to register others to encourage the registration of older products and raise awareness that this is possible e.g *Message on registermyappliance.com: "Did you know you can also register second-hand appliances?"*

38. Charity donation

Link registration to charity donation. This could be even more effective if individuals are able to choose which charity to donate to.

39. New Product Development Team

Give people who register the opportunity to become part of the "NPD community"; offering opportunities to help shape the future product offerings.

40. The "Big Four"

Define four large white goods that comprise the "Big Four" (e.g. dishwashers, ovens, fridges, washing machines)

X. Reference Grenfell

Incorporate a message from someone with a personal connection to the Grenfell fire. E.g. a fireman on duty that day, or a resident

Not taken forward as seen to have potential to cause undue panic amongst consumers, imply that registering can prevent fires and be unlikely to gain manufacturer buy-in.

PROCESS / SYSTEM CHANGES

41. One Universal System

Build one unifying platform that allows registration of all products. Separating the process of registration from the brand's website may help to distinguish it from being seen as to do with marketing.

42. Human-Proof Serial Numbers

To aid the process of product registration, make serial numbers more readable and accessible. For example, using sensical words rather than complex strings of letters and numbers.

43. SMS Registration System

Use simple text message questions to make the process of product registration easier. Simply reply to the texts with the information it asks for.

44. Tie into Home Insurance

Tying product registration to buying home insurance could be an effective way to prompt the behaviour e.g. prompt registration on home insurance websites.

45. Priming at POS

Sales assistants are well-placed to deliver messaging around the benefits of product registration. In an ideal world, they would communicate with consumers about the benefits of registration using similar materials to those used in-box, so that consumers are primed to notice and respond to materials.

46. Photo registration

Allow consumers to register by taking a photo of the serial number on their smartphone and sending it via email or message, along with their details.

Annex 2 – Interim report methodology and findings

Methodology

Findings in this report draw on Stages 1 to 3 of the project outlined above. In this section, we provide further detail on our approach for each of these stages.
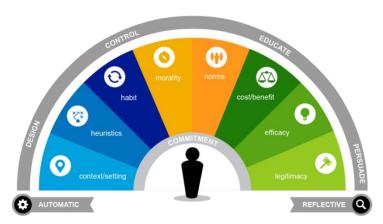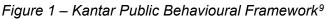
Stage 1: Insight Audit

To ensure that intervention development was grounded in a robust evidence base, we began the project by collating existing evidence on the drivers and barriers to consumers registering their white goods. This review was structured around the Kantar Public Behavioural Framework (see Figure 1 below), which summarises what academic work and our own practical research experience show to be the key generic influences on people's behaviour. This provided a consistent lens through which to draw out behavioural insight from across a range of sources.

This review was informed by a range of sources. First, we conducted a rapid evidence review of existing literature around product registration and recalls, drawing out the barriers and drivers to product registration identified.

Alongside this, we also conducted a series of ten stakeholder interviews with individuals working in or around the issue of consumer product registration, including representatives from OPSS, Trading Standards, manufacturers, retailers, and consumer bodies. In addition to these interviews, we received input from the London Fire Brigade by email.

Finally, the review was informed by emerging insight from mixed-method research to explore more general consumer attitudes and behaviour relating to product safety being carried out by Kantar Public for OPSS in parallel to this project[8].

Figure 1 – Kantar Public Behavioural Framework[9]

Stage 2: Primary Research

---

8 Findings incorporated here draw primarily on a series of 36 Accompanied Shops with recent purchasers of products across five categories (toys; baby products; electricals; white goods and cosmetics) and 12 Deliberative Workshops with consumers focused on understanding awareness of and expectations for the product safety system, including registration

9 This image is attributed by Kantar Public and not covered by Crown Copyright.

Following the Insight Audit, we conducted a small phase of primary research with consumers of domestic appliances. This stage consisted of four x 90-minute focus groups conducted in London and Manchester, amongst a total of 32 consumers. The aims of this phase were to validate findings from Stage 1, discuss registration for product other than domestic appliances (such as smaller electronic items), understand responses to current registration materials and explore responses to a range of ideas, developed based on findings from the insight audit, about how registration might be encouraged (see Section 4 of this report for further details).

All consumers within the groups had purchased a domestic appliance within the last four weeks. To ensure coverage of a broad range of consumers the groups were segmented by age (one 18-34 and one 35+ in each location) and all contained a mix of gender, ethnicity, housing tenure, and socioeconomic grade. Each group also contained at least three individuals who had purchased domestic appliances second-hand.

Stage 3: Intervention Development Workshop

Following the primary research, stakeholders from across the product safety system were invited to take part in a full-day ideation workshop, run jointly by Kantar and the Behavioural Science Practice at Ogilvy, to brainstorm ideas for consumer-facing interventions aimed at boosting rates of registration of large domestic appliances with manufacturers. The workshop was attended by 15 external stakeholders, including representatives from manufacturers, retailers, consumer bodies and Trading Standards, and representatives from within OPSS (see Appendix C for a full list of external participants).

During the morning of the workshop, we presented back findings from the first two stages of the research and led a discussion of these in light of stakeholder experiences. In the afternoon, we carried out a creative brainstorm exercise, utilising the MINDSPACE behavioural insight model. This model, developed by the Cabinet Office and the Institute of Government, sets out nine key influences on behaviour, captured in a simple mnemonic (MINDSPACE), and is a powerful tool for applying behavioural insight to intervention development (see Figure 2 overleaf). Stakeholders applied the model in mixed groups, each led by a facilitator from Kantar or Ogilvy, to develop ideas relating to different aspects of the registration process, including format, design and messaging. We also captured any wider ideas about how to improve the registration process.

Following the workshop, insights developed during the day were collated and consolidated into a visual document, forming a long list of potential intervention ideas grounded in behavioural insight to consider for the trial design.

Figure 2 – MINDSPACE behavioural model[10]

MINDSPACE

Messenger: We are heavily influenced by who communicates information.

Incentives: Our responses to incentives are shaped by predictable mental shortcuts such as strongly avoiding losses.

Norms: We are strongly influenced by what others do.

Defaults: We go with the flow of a pre-set of options.

Salience: Our attention is drawn to what is novel and seems relevant to us.

Priming: Our actions are often influenced by subconscious cues.

Affect: Our emotions can powerfully shape our actions.

Commitments: We seek to be consistent with our public promises and reciprocate acts.

Ego: We act in ways that make us feel better about ourselves.

Main findings

Approaches to boost registration

Introduction

Based on findings from the Insight Audit (Stage 1), we developed a range of concepts and materials to explore with consumers in the primary research (Stage 2). These included the idea of explicitly linking safety to registration, a range of alternative messages about registration, a leaflet branded from OPSS prompting registration and a range of other potential approaches, including legislation and a central registration database. We also collected consumer feedback on some existing registration materials. In this section, we present the findings, identifying consumer responses and drawing out implications for potential interventions.

Response to existing registration materials

Consumers were shown the registration materials provided by Beko with their products. Whilst these are not representative of all manufacturers, who each produce their own materials, they were the only ones made available for this research, and responses provide some general direction into what may help to create engagement amongst consumers. Consumers were shown a sticker that would appear on the front of the product, a registration document that contained information on the terms of the registration and a form to complete, and an additional marketing leaflet highlighting the consumer benefits of registration.

---

[10]   This image is attributed by the Institute of Government and Cabinet Office and not covered by Crown Copyright. The MINDSPACE Diagram can be found here - (Going with the grain: influencing behaviour through public policy).

Of the materials shown, the Sticker was felt to have the greatest cut-through. Participants typically felt that they would ignore or discard the other materials, with even those who did habitually register their products suggesting that they would likely look online for instructions on how to do this. By contrast, the sticker was impossible not to see, and had a very clear and direct message. However, even given this, some of those that did not habitually register claimed that they would be unlikely to act, as they either felt that they were already covered in the case of a fault without registering or did not prioritise a warranty, and so failed to see a clear benefit. Others claimed they had seen stickers like this on products before and meant to register but had not gotten round to it and had then ignored or stopped noticing the sticker. There was a clear preference for some participants that the sticker include a web address for registration, as this was their preferred route.

Although many felt they would be unlikely to notice them in the box, of the other two documents, the Registration Form was preferred as it was felt to offer a clear description of the benefits of registration (although the idea of a '1 year free guarantee' was not motivating to all) and clear instructions on how to register. It also provided a web address for registration, which was seen as easier and more convenient, especially as there was some concern about whether there would be a charge to call the telephone number provided from a mobile. Some also felt that a postal form of registration should be included for those without web access who may not want to call. Reactions to the print on the back of the leaflet were mixed. Many did not engage, although some of these felt reassured by the provision of information in the light of GDPR and others were suspicious of the 'small print'. Some of those who did engage were very much put off by the text around marketing, which was not seen to offer a simple way to opt out.

The Registration Leaflet was less well received. It was not felt to offer any clear benefits or call to action and was instead often dismissed as 'marketing'. For example, vague terms such as 'hints and tips' about products were not appealing given that participants felt that they already knew how to use their appliance, and there was little conception of what 'Important appliance updates' might actually be in practice. Participants were also negative that the leaflet only offered a telephone number for registration.

Linking registration and safety

Participants were read out the following information about product registration:

> *Manufacturers sometimes identify problems with an appliance after the product has been purchased. In these cases, manufacturers are required to contact their customers to notify them of the issue and undertake corrective action, or series of corrective actions, such as repair, replacement or refund, to address any potential safety risk. Registration provides manufacturers with the contact details necessary to contact their customers.*

Exposure to this information resonated strongly with research participants. There was unanimous agreement across the audience that manufacturers should be making the link between registration and the product recall or safety events clear if the effectiveness of the system relies on proactive consumer input.

Within this, the strength of response varied somewhat across the audience. Some participants, particularly those that were not currently registering their products or who were most concerned about marketing, expressed shock that they are not currently being informed by manufacturers (or retailers). Others, particularly those that were already registering their products to validate their warranty, claimed to be more understanding about why manufacturers would not want to make any connection between their products and any kind of safety risk, but still felt that it was the responsibility of manufacturers to make this information available. Alongside this, there was surprise amongst some in both these groups that the provision of this information was not enforced by government regulations, to enable consumers to make an informed decision about whether to register their product.

Once the link between registration and safety had been revealed, those who were already registering felt reassured that they should continue to register their products. Those who were not already registering their products felt that they would do for large domestic goods in future. However, even once exposed to this information, many participants maintained that they would be unlikely to register smaller items such as microwaves, toasters and kettles. This was driven partly by perceptions of risk, as white goods were considered more likely to be operational when the householder was not present or overnight and to offer a greater potential fire risk if something went wrong. Responses also seemed to be underpinned by perceptions of value. Participants still felt that it was impractical to register all products and that they would just pay to replace a faulty smaller item if they noticed an issue, rather than go through the process of sourcing repairs or a replacement.

OPSS branded in-box message

Participants were shown a mock-up of a leaflet branded from OPSS, directing them to register their product by visiting the manufacturer website or AMDEA's Register my Appliance service.

This leaflet received a consistent positive response across the audience. Positive reactions were driven primarily by the clear government branding, which created cut-through and a sense of credibility, and a strong call to action, with clear and measured direction about why and how to register. In all, the document was seen to lend legitimacy to registration and to have consumer interests at heart. There was strong agreement that it would be beneficial to supply something with purchases and that it would be likely to encourage registration.

The government branding was immediately noticed by participants, who felt that it would stand out well amongst the other instructional or marketing materials that they would expect to receive with a product. Recognition was driven primarily by the official coat of arms emblem, which has strong associations with government and was seen to provide credibility to the communication. This helped consumers feel that registering would be in their own interests, rather than for marketing purposes. Although the Office for Product Safety was not necessarily recognised, the name of the office was felt to sound official and was appreciated for its directness and simplicity, which strongly signaled a strong purpose. The BEIS logo was also shown to participants as an alternative and was less well received. There was little pre-existing awareness of BEIS, and the name was felt to have no clear connection to consumer safety.

The content of the leaflet was felt to be clear and instructive, with the information arranged in a logical and effective way: prominent and direct instruction on the action needed; a simple supporting statement about why registering would be beneficial; and simple directions on how to do so. Tonally, the content of the leaflet was also appreciated, as the text was felt to adequately raise the issue of safety and the risk of faulty appliances, without 'scaremongering' or worrying consumers. However, as participants were already primed to think about the issue of safety and recalls during earlier conversations within the groups, there is some question as to the extent to which this message would be motivational or related to product recall events in real life. Participants were less supportive about text explaining the relationship between Register My Appliance, AMDEA and BEIS. This was not felt to be relevant, and many felt that it could be removed to make the message clearer.

There was no existing use or awareness of 'Register My Appliance' but, like the Office for Product Safety, was appreciated for its very direct and straightforward name. Even with the explanatory text, most consumers felt that it would be a government run portal on which they could directly register their products. There were mixed reactions to this. Some, particularly those not currently registering, felt reassured that they would be registering directly with the government, as it helped to address concerns about marketing. Others, particularly those already registering with manufacturers, were concerned about the ability of government to effectively run a registration scheme and about the need to carry out an additional process if they also wanted to register with the manufacturer to activate their warranty. When it was explained that the site actually provides a portal to individual manufacturer sites, this was typically received positively, although a minority of those not registering did want reassurance that they would not therefore be required to sign up to marketing materials to register.

In all, participants that were not already registering their products claimed that this leaflet would make them much more likely to do so. Those already registering claimed they would continue but appreciated being informed about the safety element and felt it would make them more likely to continue with this in future.

Alternative messages

We also showed a number of alternative messages relating to safety, which provide some direction on the content and tone that may be motivating for consumers.

"Faulty household appliances, such as washing machines, tumble dryers and fridge-freezers, cause more than 60 fires every week in the UK"

This statement received a mixed response, depending on how the figure was interpreted by consumers. For some, 60 fires per week was felt to be a shockingly high number, and for these people the headline could prompt them to consider the risk of a fire in their own home. As the statistic is based around a simple and clear to understand fact, it was not felt to be 'scare mongering' even when it did grab attention.

For others, 60 fires per week did not seem high and was not a cause for concern given the size of the UK population and the imagined number of household appliances. Importantly, in these cases the statistic was interpreted to mean all fires across all appliances, and there was an assumption that many of these would be due to incorrect use rather than faults with the appliance itself, meaning that participants did not relate it back to their own

life. To be more effective, this statement would need to be supported by an accompanying message emphasising the connection between fires and product faults, and the benefit of registering in helping to reduce risk.

"Fires caused by malfunctioning appliances risk putting you and those who live around you at risk"

This statement was typically not felt to be motivating, as it was considered quite a bland statement of fact and did little to prompt a reconsideration of risk or behaviour. Interestingly, the mention of putting the lives of others at risk did little to prompt a reconsideration of the risk, even when there had been earlier discussion of the role of a faulty appliance in starting the fire at Grenfell. However, when prompted on this, some participants claimed that making the language more concrete by mentioning 'neighbours and family' could be more effective, enabling them to more easily relate the statement back to their own situation.

"At present, only a third of UK consumer have registered all of their domestic appliances"

This statement was generally felt to have no relevance and was dismissed by participants as irrelevant and uninformative. It also felt to risk creating an impression that registering is not the norm, and therefore act against encouraging action in those not currently registering. Given the lack of understanding around registration, participants were far more interested in information about the benefits of registering.

Response to other potential interventions

Participants were also introduced to a number of other potential interventions that could be used to manage or mitigate the registration process.

1. **Legislation requiring consumers to register**

Consumers were strongly opposed to legislation that would require them to register their appliances, as is currently the case with motor vehicles. They felt that this would be an unwelcome and unnecessary requirement, and that it was not warranted by the scale of risk.

Having been exposed to information linking product registration to the product recall system though, consumers felt that there was a clear responsibility for manufacturers to inform participants about the relationship between safety and registration - and were in favour of legislation to mandate this. Ultimately, they felt that it was the individual responsibility of consumers to register their own products, but that they should be enabled to do so with a full understanding of its purpose.

2. **Central database**

There were mixed views on the idea of a centrally run government database for registrations. For some, the idea was received positively as it would create one reference point, enabling participants to register all their appliances in one place. This simplicity could appeal, and some saw benefits in terms of managing registrations – for example, one participant suggested that it would mean multiple items could simultaneously be re-registered to a new address if a participant moved and took appliances with them. For

those who were most concerned about marketing and mistrustful of business, the idea of government handling personal data could also be reassuring.

However, many others found the idea of a government-run central database difficult to imagine and lacked trust in government to successfully implement and run it. These people tended to think that the current system was sufficient, if people were fully informed about the benefits of registration and its link to product safety. As above, there were also concerns amongst those already registering their products, that they would then need to register both on a central database and with the manufacturer if they still wished to activate or extend their warranty. Some also had concerns about the consolidation of personal data in one place and how this might be used by the government and felt more comfortable with it being distributed across multiple manufacturers.

3. Upstream information using bank data

When first introduced to this idea, participants were typically initially quite shocked that they could be identified from this data. However, once that as understood, then the majority were in support of their personal data being used for this purpose to address a genuine safety risk. This reflected the idea that, as the data was already being held, it should be used that benefits the consumer. However, a minority remained uncomfortable with their transactions being processed in this way and the level of data-sharing that it implied.

Office for Product Safety and Standards
Department for Business and Trade,
4th Floor Multistory, 18 The Priory Queensway, Birmingham B4 6BS
https://www.gov.uk/government/organisations/office-for-product-safety-and-standards