

# Journey Optimisation: The Road Not Taken



Photo: Brayden Law / Pexels.com



# Contents

Executive Summary 03

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Chapter 1.  
Two Decades of Digitisation 05

---

Chapter 2.  
Pricing and Bundling 07

---

Chapter 3.  
Foregrounding 10

---

Chapter 4.  
Usability and Optimisation 12

---

Recommendations 14

---

Detailed Methodology 15

---

About Dectech 17

---

# Executive Summary



In a digitising economy, this report explores various strategies for optimising customers' online journeys and, using an immersive randomised controlled trial, measures the scale of those benefits.

The main research takeaways are:

**Relentless Digitisation:** The global economy has been digitising exponentially for over 20 years, albeit differentially across countries and categories. In 13 years, the majority of US retail sales will be online. In the UK, online is already 30% of sales.

**Conversion Dispersion:** There is tremendous scope for journey optimisation. In our case study, real-world acquisition journey conversion rates vary from 21% to 64%. Based on this, one provider's stock has outperformed its rival by x20 over 15 years.

**Price Rises Backfire:** You can only capture about two-thirds of a price increase because people trade down. Furthermore, it reduces Customer Satisfaction and, thereby, sales conversion and shareholder value. There are better strategies.

**Cross-Sell Carefully:** You can increase Average Order Value by selling Add-ons. How you bundle these Add-ons into packages is important. You shouldn't clutter up the online journey with too many decisions on the same page.

**Choices are Malleable:** There are many ways to manage how often a given option is chosen. This includes altering the defaults, re-ordering lists, and flagging the most popular options. Each effect can move choice in the order of  $\pm 10\%$ .

**Friction is Expensive:** Counter-intuitive layouts, extra clicks, and weird journey flows greatly reduce Customer Satisfaction. Minimising each source of friction is equivalent to a -10% price cut. Simplified journeys are extremely valuable.

**1 in 5 Ideas are Good:** This study is typical. We tested 25 scenarios and many had no effect or actually backfired. Only 5 ideas had a material impact on performance. Which ideas will work in a given context isn't clear until you test.

Based on these findings, we make five main recommendations (see next page). In this case study, adopting these recommendations leads to a +23% increase in Average Order Value coupled with a rise in Customer Satisfaction equivalent to a -11% price cut.



## RECOMMENDATIONS

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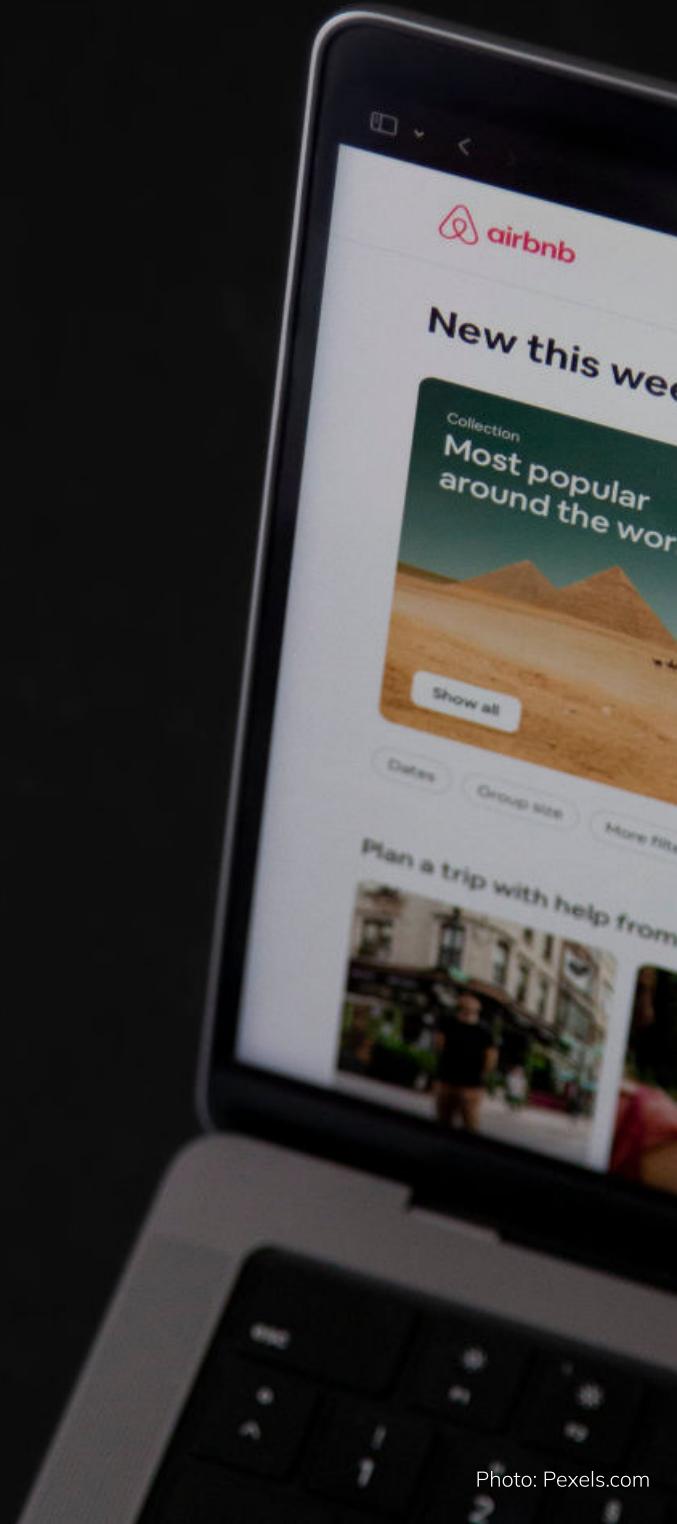
There are five main recommendations for optimising customer journeys:

- **Beware of Price Optimisation:** Start with other, more creative, ways to raise sales than by using brute force price increases.
- **De-Couple Choice and Complexity:** Innovate ways of giving people more choice without lumbering them with more decisions to make.
- **Provide Authentic Advice:** Signpost people towards their most suitable options to build their trust and your shareholder value.
- **Minimise Journey Friction:** Make the journey as frictionless as possible (e.g., by putting effort into designing intuitive interfaces).
- **Don't Guess, Test. Accurately:** Test more ideas using a more accurate filter. Small sample wireframing isn't enough.

“

*Adopting these recommendations led to a +23% increase in Average Order Value coupled with a rise in Customer Satisfaction equivalent to a -11% price cut.*

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## Chapter 1

# Two Decades of Digitisation

Do we really need to establish the importance of optimising digital journeys? Possibly not. But it's still intriguing to start by taking a step back and reviewing the progress of digitisation itself. And that progress has been consistent and unrelenting.

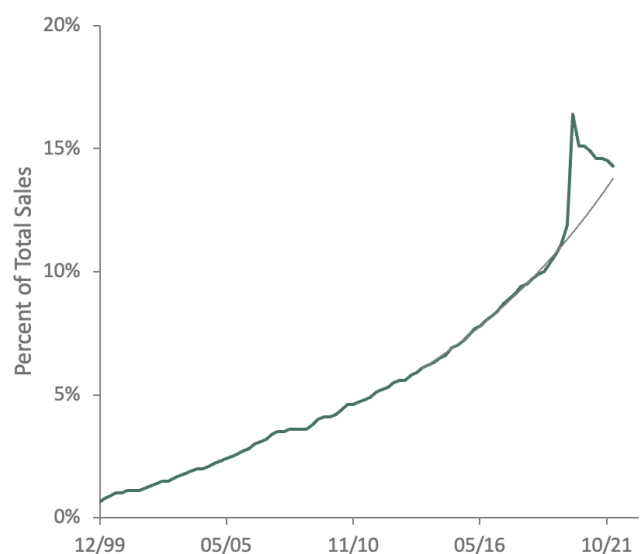
Figure 1 shows how, from a niche activity 20 years ago, online sales currently account for 14% of American retail, having spiked during the pandemic and now returned to its pre-pandemic trajectory. Played forwards, this trend has the majority of US sales online by 2035.

Naturally these adoption rates vary greatly by geography and category. Across Europe, Italy lags behind at 9% whereas the UK leads with 30% of sales already online. If you're running a UK retailer, you've got about 5 years until online dominates.

Likewise, Fashion has a higher percent of online sales than Grocery. But those are still \$10.8Bn and \$27.4Bn markets respectively. It's perhaps unexpected, but Ocado, at \$3.0Bn sales, only has a 10% share of the online grocery market.

Inevitably some companies have adapted faster than others to the market restructuring and the associated flood of new entrants. We're going to use Hospitality as a case study in this report because it exemplifies that narrative.

**Figure 1: United States Online Retail Sales**



Source: Retail Indicators Branch, U.S. Census Bureau

**Figure 2: Hospitality Sector Performance**



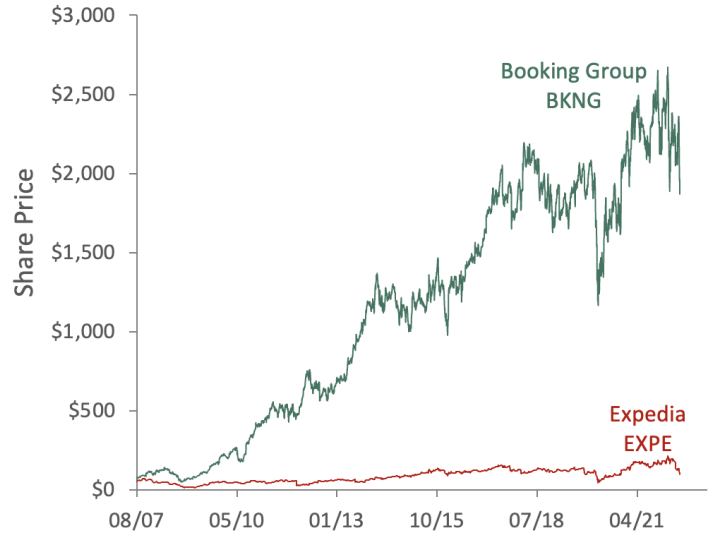
Source: Dectech fieldwork (n = 1,550 nat rep). Awareness is prompted. Conversion Rate is defined as reported usage over past year divided by Awareness<sup>1</sup>.

As Figure 2 shows, existing providers Travelodge and Premier Inn are doing well, being both well-known and widely used: Marriott and Best Western not so much. New entrants, Booking.com and Expedia, have muscled in on the action.

Figure 2 also demonstrates how seemingly similar businesses can deliver vastly different Conversion Rates. The performance rewards from overall journey optimisation are massive. Expedia and Booking.com were both founded in 1996 and offer broadly comparable services. They have since achieved similar levels of brand Awareness. Yet Booking.com’s ability to convert that Awareness into Sales is roughly double that of Expedia. How did they do that?

Over the years, the financial impact on investors of this divergence has been profound. In 2022 Booking.com’s turnover will be \$17.4Bn and Expedia’s \$11.7Bn. If Expedia matched Booking.com’s Conversion Rate, sales would grow +\$8.0Bn.

**Figure 3: Shareholder Return**



Source: Bloomberg

Figure 3 tracks the associated impact on shareholder returns. 15 years ago, both stocks traded at about \$50. Today one is worth \$100 and the other \$2,000.

“  
**Relatively modest changes to a providers product offering and acquisition journey design can lead to significant improvement in sales and shareholder returns.**  
 ”

In this brief we use a behavioural experiment to explain how relatively modest changes to a provider’s product offering and acquisition journey design can account for this entire outperformance.

<sup>1</sup> Figure 2 shows a correlation between Awareness and Conversion Rate. This relationship – that well known firms tend to be better at converting Awareness into Sales – isn’t inevitable. I kid you not, the first time we saw this result was 20 years ago, for Kettles and Toasters. There are various potential causes. For example, it could be reverse causation (you’re more aware of hotels you’ve used) or third cause correlation (you’re more aware of, and more likely to use, larger hotel chains). Moreover these findings align with the theory of Double Jeopardy Law, an empirical law in marketing, which postulates that brands with smaller market shares are found to have fewer and less loyal buyers (Sharp, 2010).



Photo: Pixabay / Pexels.com

## Chapter 2

# Pricing and Bundling

The experiment underpinning this report is detailed in the appendix. But, in summary, we created an online acquisition task where paid participants select a hotel room, choosing between five types, review some Add-ons, such as paying for Late Check-Out, and then tell us how they feel about their choices and the sales process.

As a randomised controlled trial, different participants experience different journeys and propositions to see how these affect their behaviours and reactions.

As we'll discuss, we ran 25 different scenarios. But for context, the first feature we varied was price. Figure 4 shows what happens when you parallel shift all five rooms. As prices increase, people trade-down to cheaper rooms and spend less on Add-ons. Consequently, Average order Value (AOV) increases, but by less than the underlying price rise. Applying +20% to the £114 AOV base case gets you to £137. However, the trading-down means you only realise two-thirds of that gain at £129.

But these price changes also impact Customer Satisfaction and, thereby, the likelihood of converting a sale. And this is the problem with price optimisation. The most measurable thing, like AOV or sales, always goes up when you raise prices. Meanwhile there's a long, and increasingly hard to measure, list of collateral damage, eventually reversing the predicted benefits and rendering the strategy ill-advised. Price elasticity is a Siren Song (see box page 9).

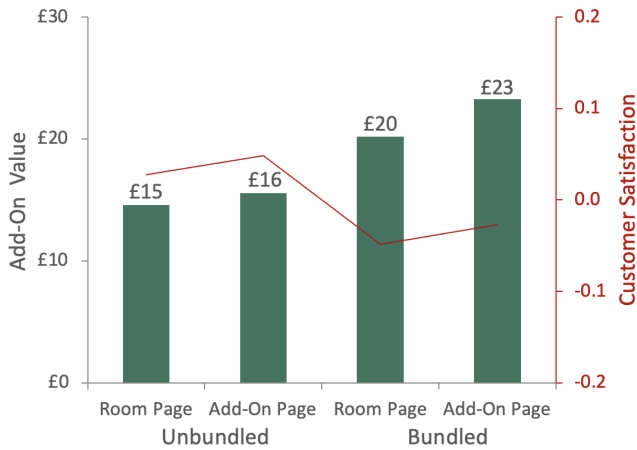
**Figure 4: Price Elasticity**



Source: Dectech fieldwork (n = 1,550 nat rep). At x1.0 and x1.2 a Standard Double costs £75 and £90 per night respectively. Customer Satisfaction is a normally distributed principal component based on several image statements.



**Figure 5: Cross-Selling Add-Ons**



Source: Dectech fieldwork (n = 1,550 nat rep). Four Add-ons were offered individually or bundled into two pages either at the bottom of the room page or on a separate page.

One solution is to replace brute force price increases with more customer-friendly elective premium options offered with a minimal amount of additional journey friction. Give me more choices but keep it simple. For example, the experiment included conditions where we tried to cross-sell people Add-Ons whilst others saw them grouped into two Bundles (e.g., Breakfast and Late Check-out were combined into a Rise and Shine package).

The results of these cross-sales conditions are shown in Figure 5. In these Bundle conditions, customers spent more money. However, like the price rise conditions, this knocked Satisfaction by almost the same amount. People don't like being coerced into spending an extra £7 and, in this case, they prefer the more granular choice. How many Add-ons? Which Add-ons? How to group them? These decisions will all impact AOV and Satisfaction and will need testing.

Finally, it's interesting to note that Satisfaction levels and spend were always higher when Add-Ons had their own page and weren't cluttering up the room choice page. When cross-selling, don't spanner people with two choices at once. The value of journey fluency is something we return to later.



*The only way to optimise prices is to measure customer choice under conditions that are as similar as possible to real-world conditions.*



## Price Optimisation

We are not against price optimisation. We just think it's hard to achieve in practice. Price elasticity is typically measured with econometric modelling and sales data. At what price do sales or gross margins peak? This approach has two immediate problems:

**1. Ignores Shareholder Value:** As noted earlier, there's no attempt to measure any longer-term collateral damage. You put up your prices, customers continue to buy, but they start to plan their escape. Short-term sales data isn't long-term sales data.

**2. Massive Estimation Errors:** Elasticity itself is hard to measure, let alone its rate of change and therefore when it will peak. If the first derivative is noisy, the second derivative is pure speculation.

But our main objection to this approach is that it presumes the correct answer is contained within the past sales data. Price elasticities are highly volatile. Extrapolating from people's past behaviour in some specific circumstance is going

to be misleading. Competitors respond. Price sensitivities change. Marketing alters preferences.

The research finding in Figure 6 illustrates this point. Participants were asked to choose between two sofas. Half the participants made this choice with clouds as the background behind the sofa descriptions whilst the other half were shown a background with coins. More people in the clouds condition purchased the expensive sofa because that wallpaper had primed them to put more emphasis on comfort.

Price elasticity is so unstable it can't even survive an unannounced change in wallpaper. The only way to optimise prices is to measure customer choice under conditions that are as similar as possible to real-world conditions. If you change your pitch, your creative, or your acquisition journey then you need to re-measure; likewise, if there's a new competitor offering, or macro conditions change. In other words, you always need to re-measure.

**Figure 6: Altering Preferences**

		Sofa Choices	
		Cheap But Uncomfortable	Comfortable But Expensive
Wallpaper	Coins	49 %	51 %
	Clouds	40%	60%

*Source: Mandel, N., & Johnson, E. J. (2002). When Web Pages Influence Choice: Effects of Visual Primes on Experts and Novices. Journal of Consumer Research, 29(2), 235–245.*



Photo: Pexels.com

### Chapter 3

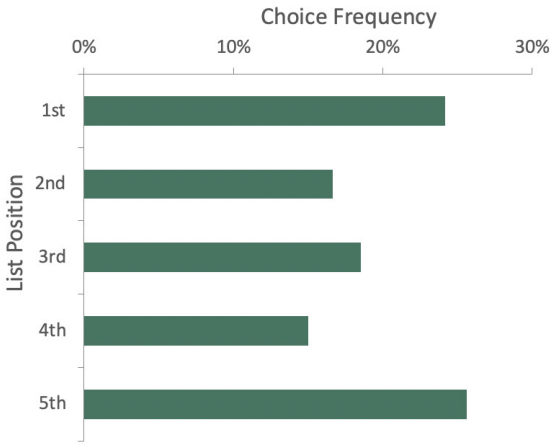
# Foregrounding

Customers just want an easy life. Clearly some products require greater engagement than others. People are more invested in booking a hotel room than renewing car insurance. But no one wants to read complicated instructions, plough through repetitive information, or wander around some “hall of mirrors” website. Basically, following the school of “I’d write you a shorter letter if I had more time”, customers want to feel that they’ve made an informed choice with minimal cognitive effort.

This simplicity preference can be seen in people's propensity to pick the first and last items from a list. This well documented Serial Position Effect (e.g., Murphy et al. (2006)<sup>2</sup>) is evident in Figure 7, which shows position choice frequencies in our experiment, isolating for other factors like underlying room popularity. This effect can be used for good or evil. The first item can be the most suitable or the highest margin product. This decision is between you and the god of intangible brand value.

There are, of course, other ways to foreground or side-line a product and Figure 8 shows some examples. First, in the baseline condition, people had to click on a room to reveal its detailed description. But when we made the details of the first room open by default, its selection rose +10%. Second, when we put the last two rooms on a second screen, their selection dropped -9% on average. All this without any change to the product or its pricing.

**Figure 7: Primacy and Recency**

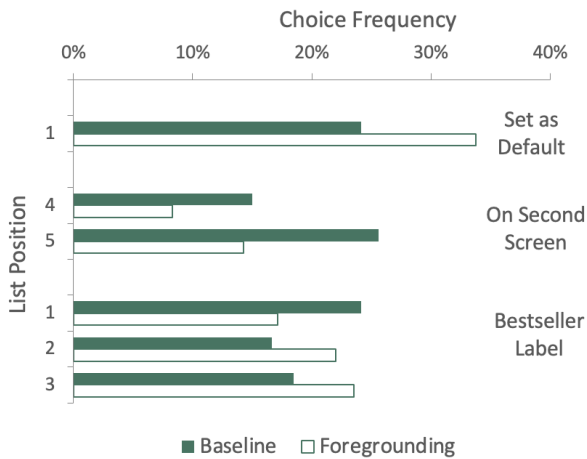


Source: Dectech fieldwork (n = 1,550 nat rep). List position choice frequency controls for other choice variables such as price, type of room and so on.

<sup>2</sup> Murphy, J., Hofacker, C., & Mizerski, R. (2006). Primacy and Recency Effects on Clicking Behavior. Journal of Computer-Mediated Communication, 11(2), 522-535.



**Figure 8: Foregrounding Strategies**



Source: Dectech fieldwork (n = 1,550 nat rep). The experiment had conditions that alter the labelling or location of different list positions on the room selection page.

Third, we put a “Bestseller” label on one of the first three rooms. This increased selection by about 5% for the second and third rooms but decreased selection by -7% for the first, particularly when it was the Grand Suite. If the second or third room is labelled Bestseller, then it probably is the bestseller. But labelling the first room Bestseller seems like too much of a coincidence. There’s a good chance I’m being messed around, and few things are more off-putting to a consumer than a lack of authenticity (see box).

## BOX OUT

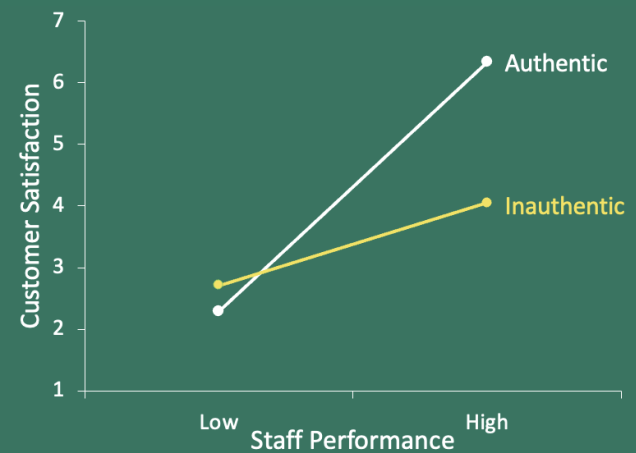
### The Importance of Authenticity

Authenticity is an important part of great Customer Service. To illustrate this point, there’s a fascinating literature on the Duchenne smile in Hospitality settings.

The Duchenne smile, first identified by French anatomist Duchenne de Boulogne in 1862, involves both lifting the corners of the mouth and crinkling the skin around the eyes. This smile is perceived as more authentic than if the eyes don't crinkle. Deploying a non-Duchenne smile in a hotel or restaurant setting comes across as inauthentic and potentially even sarcastic.

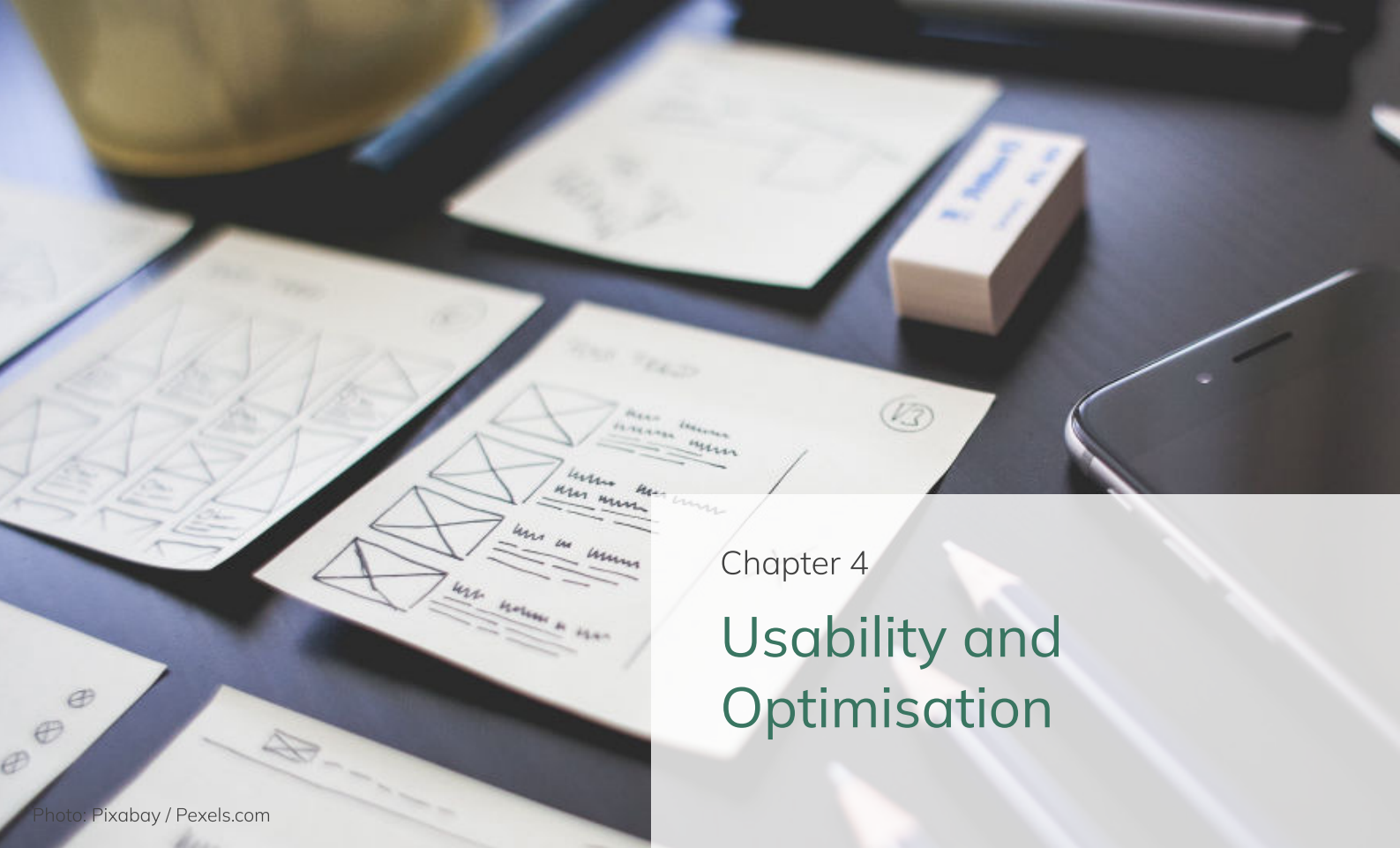
For example, Figure 9 shows a finding from Grandey et al. (2005) who captured people’s reactions to different hotel check-in encounters. Check-in performance is a hotel hygiene factor. If you perform poorly at this, you will have low Customer Satisfaction, regardless. But if the check-in is performed well, the authenticity of the check-in staff, in this case whether they deploy a Duchenne or a fake smile, can greatly enhance perceptions of friendliness and, thereby Customer Satisfaction.

**Figure 9: Authenticity in a Customer Service Encounter**



Source: Grandey, A. A., et al. (2005). Is “service with a smile” enough? Authenticity of positive displays during service encounters. *Organizational Behavior and Human Decision Processes*, 96(1), 38–55.

Clearly, how to come across as authentic is a minefield. For example, the cultural norms for when to deploy any form of smile vary wildly between the United States and Europe. But the main point is that consumers respond well to a transparent and trustworthy acquisition process. Indeed, even the term “acquisition process” is a bad place to start. As soon as there is a whiff of being a wallet-on-legs, you have lost them.



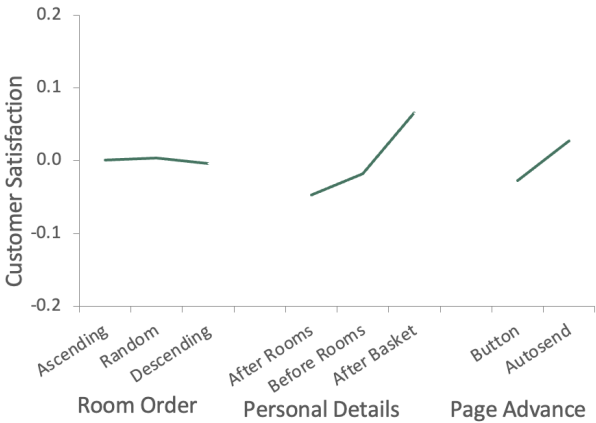
## Chapter 4

# Usability and Optimisation

Photo: Pixabay / Pexels.com

As noted earlier, when we tested Add-ons on their own page or on the room page, it's important to minimise journey friction. So finally, we explored the impact of making small, structural changes to the journey itself. As shown in Figure 10, whilst none of these conditions changed people's purchase behaviour and, thereby, AOV, they did alter people's Customer Satisfaction and consequently their purchase likelihood and brand perceptions.

**Figure 10: Finding the Frictionless Journey**



Source: Dectech fieldwork (n = 1,550 nat rep). Three sets of conditions were run changing the layout and flow of the acquisition journey.

For example, reducing clicks by Autosending to the next page once a room is selected, rather than having to hit "Continue", makes people happier. This Satisfaction improvement is equivalent to cutting room prices by -8%. Likewise, not putting check-out details in a weird place, such as earlier in the journey, is equivalent to a -16% price cut. Conversely, whatever room ordering you use, including a random room list, there is no effect. We expected people to prefer Ascending. We were wrong. You need to test.

And your reward for testing is to identify operative effects that raise Customer Satisfaction. You'd think anyone trying to explain the extraordinary outperformance of Bookings.com relative to Expedia based on when they asked customers for their personal details was demented. Yet Figure 11 documents the remarkable financial impact of optimising an acquisition journey with just such small adjustments.

The baseline condition has five rooms visible, no default, with unbundled Add-ons on the same page, a "Continue" button and personal details collected before the final basket check-out page.

Figure 11: Journey Optimisation

	Room	Add-ons	Total	Satisfaction
Baseline	£101	£15	£116	0.00
Three Rooms Visible	£110	£16	£126	-0.03
Grand Suite is Default	£113	£16	£129	-0.04
Autosend Advance	£115	£16	£131	0.02
Detail After Basket	£115	£16	£131	0.13
Bundled w/ Own Page	£117	£25	£142	0.07

Source: Dectech modelling (n = 1,550 nat rep). AOV is based on two multinomial multivariate logistic regressions and Customer Satisfaction is modelled using regression to predict the principal component of several image statements.

There's plenty of sites that do this. Then you make five fairly innocuous design adjustments and AOV climbs +23% to £142 whilst, at the same time, Customer Satisfaction increases by the equivalent of a -11% price cut. All without a single Price Optimisation algorithm in sight.

Across the 380 studies we've run on 2m participants over the past 20 years, this is a very common outcome. Clients often have 20-30 good ideas, like the 25 conditions we tested here, but don't know what will work best. Immersive randomised controlled trials then reveal that

about 20 of them, or 4 out of 5, have either no effect or marginally backfire. The remaining 20% are good ideas that raise performance by around 5-10% each.

Booking.com has outperformed Expedia by +20% each year over the past 15 to deliver a x20 shareholder return. The only difference required is to keep picking the right five things out of twenty-five options. No grand strategic vision is needed. Just a sustained commitment to incremental improvement based on accurate evidence.

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**Only 20% of all the design adjustment ideas are responsible for raising performance, by as much as 5-10% each.**

”





# Recommendations



Using a randomised controlled trial, we immersed paid participants in a hotel room booking experiment. Exploring twenty-five conditions, we identified five adjustments that optimise the acquisition journey.

The optimised journey simultaneously increases AOV by +23% and Customer Satisfaction by the equivalent of a -11% price cut.

Based on these findings, we offer the following advice:

- **Beware of Price Optimisation:** There is a permanent temptation to raise prices and hit shorter-term sales targets at the expense of longer-term enterprise value. Unless there is a clear-cut result, look for other, more creative, ways to raise sales. Of course, that's going to be harder work, but you don't get owt for nowt.
- **De-Couple Choice and Complexity:** Find innovative ways to give people more choice without them having to make more choices. For example, you can bundle wisely by combining features people tend to co-purchase. Likewise, don't spanner sales by trying to sell too many things at once. You can always cross-sell later.
- **Provide Authentic Advice:** Save people time and effort by exploring different methods of signposting them towards the most suitable options. Methods include how you select the default option, flagging bestsellers and so on. Providing this advice in good faith will build trust and longer-term enterprise value.
- **Minimise Journey Friction:** In the spirit of the "Three Clicks Rule" you need to make the journey as simple and frictionless as possible. This can include editing down text, streamlining data entry, designing intuitive interfaces, and sticking to standard schemas wherever possible. Think Google search page circa 2002.
- **Don't Guess, Test. Accurately:** You can intuit journey design ideas by interviewing people. But you can't evaluate those ideas without larger-scale fieldwork. The more ideas you test and the more accurate your test, the better your outcome. A/B testing a few conditions or small sample wireframing doesn't cut it.

# Detailed Methodology

## Sampling

The primary research undertaken for this report was conducted online from 25th November 2021 to 2nd December 2021 with a nationally representative sample of 1,548 UK consumers aged 18 and over.

## Behaviourlab

Behaviourlab is our bespoke online test platform that uses a randomised controlled trial to address key commercial questions more accurately and definitively. The method follows modern academic standards of eliciting consumer preferences and behaviours.

This research involved putting participants through a realistic simulation of a hotel booking website (see Figure 12 for an example). Each participant was asked to book a room from the following five: Standard Double, Double with Garden View, King, King with Sea View, and Grande Suite with Terrace. Participants were also offered the opportunity to choose from the following upgrade options: Breakfast, Late Check-Out, flexible booking, and a bottle of champagne. To proceed, participants had to choose a room but were not forced to choose any of the upgrades.

We explored the impact of a number of different levers that might influence a consumer's likelihood to purchase a room and extras, and impact perceptions of the hotel and booking website. These levers (summarised in Figure 13) included pricing, upgrade bundling, whether a room was displayed as a bestseller, the ordering of the pages and so on.

After completing the hotel booking journey, participants were required to indicate their likelihood to purchase the hotel package they chose and rate the hotel and booking website on a number of different perception statements. The analysis involved statistically modelling whether the different levers increased purchase likelihood of rooms and upgrade options, and whether they increased positive perceptions of the hotel and booking website.

**Figure 12: Example Hotel Booking Journey**



**Figure 13: Summary of Levers Tested**

	Element 1	Element 2	Element 3	Element 4	Element 5
<b>Room Ordering</b>	Ascending	Descending	Random		
<b>Bestseller</b>	None	Bestseller (1st)	Bestseller (2nd)	Bestseller (3rd)	
<b>Price Level</b>	80%	90%	100%	110%	120%
<b>Upgrade Options</b>	Bundled (Room Page)	Bundled (Add-On Page)	Unbundled (Room Page)	Unbundled (Add-On Page)	
<b>Default Plan</b>	No Default	Default			
<b>Page Progression</b>	Autosend (Plan Selection)	Continue Button (Scroll & Click)			
<b>Visible Options</b>	3 Options	All Options			
<b>Page Ordering</b>	Personal Details Before Rooms	Personal Details After Rooms	Personal Details After Basket		

## Modelling

For the Behaviourlab experiment data, an ordinal logistic regression was used to model purchase likelihood and multivariate multinomial logistic regression was used to model the room choices. The purpose of modelling is in part to control for the impact of other information (such as consumers' age) and thereby isolate and estimate the impact of different benefits on the probability of purchase. The set of controlling factors included personality traits, demographics, and past hotel booking behaviours. Modelling also allows us to identify the statistically significant effects and avoid reporting insights that are actually only noise in the data.

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# About Dectech



Dectech provides the most accurate and best value forecasts available on how people will behave in new situations. As you can tell, we are enthusiastic proponents of doing more experiments. Founded in 2002, we ran our first Behaviourlab study a few years later. We are based in London and staff owned. We regularly publish articles and briefs. Follow us on social media to receive them or stop by our website to sign up for email notifications.



## Example Clients



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