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Should online retailers emphasize efficiency or experience? First insights on the evolution and heterogeneity of website attributes☆

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ABSTRACT

Anecdotal evidence indicates a notable shift in online consumer expectations, emphasizing a desire for an enjoyable online shopping experience, beyond convenience and efficiency. This insight thus prompts key questions: Should retailers emphasize efficiency-related or experience-related website attributes, and in which contexts might one priority be superior to the other for encouraging consumer loyalty? The present study provides initial insights into the evolution of the effectiveness of different website attributes and heterogeneity in their effects. Using a rich data set, spanning vastly different contexts and time periods, the authors detect new, evolving patterns by which different website attributes relate to customer loyalty. Experience-related attributes have become more important than efficiency-related attributes in recent years, with some noteworthy contingencies, such that they are especially impactful for services (vs. products) and in cultures with long-term (vs. short-term), high (vs. low) self-indulgence, and high (vs. low) masculinity orientations. The increasing importance of experience-related attributes is driven by cultures with a low (vs. high) uncertainty avoidance. These insights in turn offer practical implications for retailers navigating the challenges associated with designing their websites to drive customer loyalty.

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Online retailing has grown tremendously in the past two decades, leading to global online sales of $6.3 trillion in 2023 (Forbes, 2023a). Retail websites can contribute substantially to retailers' success; they often serve as the first point of contact for customers seeking goods and services, even if they eventually purchase offline (Visual Objects, 2021). A well-designed

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website can not only attract and convert customers directly but also determine long-term loyalty (Herhausen et al., 2020), such that its appearance and appeal can represent a "make-or-break" factor for retail businesses (Forbes, 2020).

Traditionally, online retail websites have built on efficiency, such as by offering convenience and fast shipping (Berry, Seiders, & Grewal, 2002; Parasuraman et al., 2005). Amazon offers a typical example of an online retail website that offers a high level of efficiency, without much focus on enhancing the consumer experience. However, recent evidence also indicates a shift, such that consumers expect not just convenient online shopping (Wallstreet Online, 2022) but also positive, memorable, and enjoyable shopping experiences (Gielens, 2022). Likely as a result of this shift, Amazon's customer satisfaction scores recently reached one of the lowest levels in the retailer's history (PYMNT, 2022). It seems that post–COVID-19 consumers are looking for more than just quick or transactional shopping trips due to their "online fatigue" (Wallstreet Online, 2022). Many people interviewed by *The Wall Street Journal* noted a deteriorated online shopping experience, leaving them dissatisfied (Industry Leaders, 2022)—a troubling indicator, considering that 80% of dissatisfied customers abandon online retail websites (Nosto, 2023).

Another aspect of these shifts involves the growing (or renewed) appeal of physical stores for many shoppers (Gielens, 2022). Compared with online stores, physical stores offer several experiential advantages; they provide face-to-face personal contact, along with captivating visuals, resonating sounds, and tempting aromas that are difficult to replicate online (Biswas, 2019). Developing such sensory experiences appears increasingly critical for retailing, prompting physical and omnichannel retailers to actively rethink their store-based offering (Gielens & Roggeveen, 2023). Do online retailers need to revamp their websites? Are online retailers wrongly guided by the "efficiency trumps everything" idea? Or in other words: When should retailers emphasize experience over efficiency in their online retailing efforts?

Some pioneering retailers have already tested augmented and virtual reality technologies to enhance online shopping experiences (Forbes, 2023b). Such experiments reflect the sense that emphasizing experience-related website attributes could offer customers compelling reasons to remain loyal and thus help online retailers solidify their positions and compete in the evolving digital marketplace (Rigby, 2021). Yet a shift toward an experience-oriented strategy also implies substantial risk for online retailers that have defined their competitive advantages on the basis of efficiency-focused strategies (Biswas, 2019). To date, there is lack of empirical evidence that can guide retailers on this important decision.

We aim to fill this gap and strive to answer the preceding questions by providing much needed first insights, on the basis of a rich data set obtained from vastly different contexts and time periods, which allows us to detect new and evolving patterns by which different website attributes relate to customer loyalty. Specifically, we use an empirics-first approach, as outlined by Golder et al. (2023), which refers to research that is grounded in a real-world marketing phenomenon and involves obtaining and analyzing data to produce valid marketing-relevant insights. We analyze a database that taps into more than 20 years of website attribute effects, covering 119,099 consumers, 27 different countries, and 1296 effect sizes. Using a meta-analytical approach, we build a rich model that would be difficult to test with other types of secondary data and provide several implications for the retailing field.

First, we examine website attributes and classify them as experience- versus efficiency-related attributes. We clarify and confirm that customers differentiate experience- from efficiency-related website attributes. This differentiation can help retailers prioritize their investments in existing website attributes, as well as assess the likely impact of yet-to-be-introduced website attributes on customer loyalty.

Second, we offer insights into the strength of the two types of website attributes, the evolution of consumers' preferences for these website attributes over time, and their heterogeneous effects in driving customer loyalty. Experience-related website attributes have become more important than efficiency-related attributes in recent years, with some noteworthy contingencies. They are more impactful for services (vs. products) and in cultures with long-term (vs. short-term), high (vs. low) self-indulgence, and high (vs. low) masculinity orientations. Moreover, the increasing importance of experience-related attributes over time mainly can be attributed to cultures with a low (vs. high) uncertainty avoidance. These findings help retailers gain a nuanced understanding of the relative importance of the two categories of website attributes for driving customer loyalty and the extent to which they should prioritize experience versus efficiency attributes in their specific retail context.

Third, our findings reveal explanatory mechanisms pertaining to how experience- and efficiency-related website attributes affect customer loyalty. By testing six competing models with multiple mediators (i.e., service quality, perceived value, trust, and satisfaction), we reveal that (1) the effect of efficiency-related attributes on loyalty is indirect and primarily explained by trust (45%), followed by satisfaction (30%) and perceived value (25%), whereas (2) the effect of experience-related attributes on loyalty is mainly direct (76%), which suggests other, yet-to-be-explored mechanisms at work.

Conceptual framework

Fig. 1 displays the conceptual framework of our study. Building on literature pertaining to customer loyalty in e-commerce (Rose, Clark, Samouel & Hair, 2012), we differentiate between efficiency-related website attributes (i.e., content, fulfilment, navigation, and privacy) and experience-related website attributes (i.e., aesthetics, entertainment, and interactivity), as well as their distinct effects on customer loyalty. In online loyalty literature, key website attributes often are linked to customer loyalty through means-ends-chain theory (Gardial et al., 1994). Repeat purchases and customer loyalty are needed for the long-term success of online retailers (Gielens, 2022), as indicated by extant literature that establishes a customer loyalty–performance link (e.g., Herhausen et al., 2020). The framework also considers potential moderators and mediators,

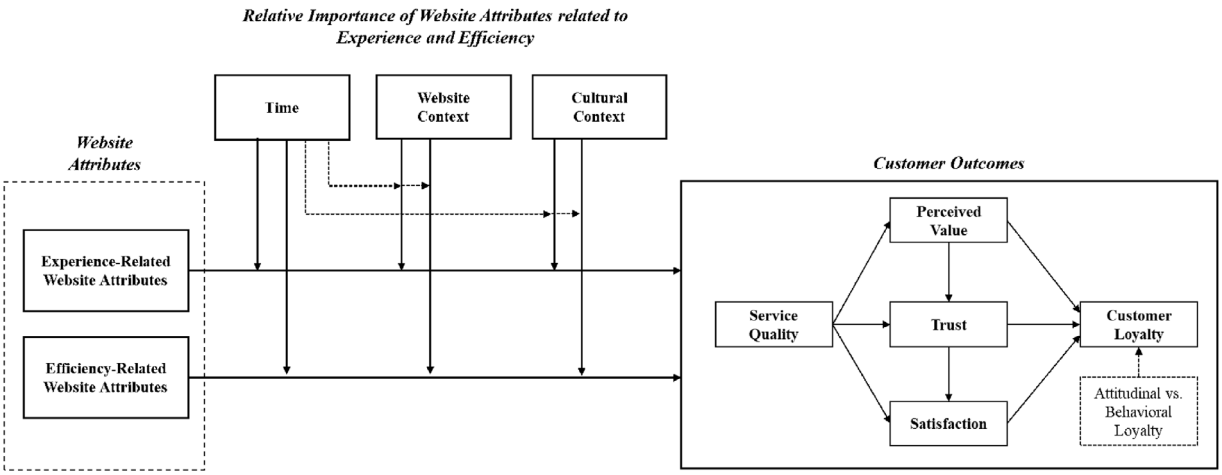

Fig. 1. Conceptual model. *Notes:* The moderating effects of the website and cultural context are primarily examined for customer loyalty. Web Appendix M reports additional moderator analyses for the four mediators as outcomes.

as discussed in detail after our elaboration on the distinction between categories of website attributes. This distinction between experience- and efficiency-related website attributes is informed by three literature streams in retailing, pertaining to (1) efficiency and convenience, (2) customer experience management, and (3) smart technologies and their effects on efficiency and experience.

Efficiency and convenience in retailing

Retailing research into efficiency and convenience usually conceptualizes convenience as "consumers' time and effort perceptions related to buying or using a service" (Berry, Seiders, & Grewal, 2002, p. 4). Offline retailers often try to enhance the sales of goods and services by adopting an efficiency-oriented strategy, such as by implementing fast checkout options or offering extended opening hours (Berry, Seiders, & Grewal, 2002). Still, the innate efficiency and convenience of online stores typically exceeds those of physical stores (Parasuraman et al., 2005). Online retailers like Amazon offer 24/7 service, support ordering from any location, and provide fast delivery, such that online shopping processes often require less time and effort by customers. Because online retailers already are primed to adopt an efficiency-focused strategy, they often seek to enhance the convenience they provide even further, in line with the wheel of retailing notion that "forms of retailing commence as cut-price, no-frills, narrow-margin operations that gradually trade up" (Brown, 1990, p. 143).

Customer experience management in retailing

Customer experience management refers to a business strategy that enhances the customer's shopping experience and has the potential to lead to greater shopper satisfaction, more store visits, greater share of wallet, and profits (Grewal, Levy, & Kumar, 2009). Retailers with physical stores might adopt this strategy to compete with the convenience and cost-effectiveness offered by online retailers. Verhoef et al. (2009) stress that offline retailers can actively manage the customer experience and leverage store-related instruments, under retailers' direct control, such as the service interface and retail atmosphere, to enhance the customer experience. According to this stream of literature, physical stores outperform online stores in terms of their potential to provide positive, memorable experiences, due to their ability to appeal to the different senses of customers (Biswas, 2019). However, website design can be used to enhance the online customer experience, and website attributes such as interactivity might induce feelings of flow and humanness (Novak, Hoffman, & Yung, 2000).

Smart technologies in retailing

Whereas the two previous literature streams refer to efficiency/convenience or customer experience in isolation, a third literature stream explicitly considers the dilemma they create. Scholars stress that smart technologies have the potential to enhance both the efficiency of service provision and the customer experience (Mende et al., 2019). For example, service robots might provide either a functional or a social experience (Choi et al., 2020). Functional service robots are designed mainly to perform physical or cognitive tasks and thereby improve the efficiency of service provision (e.g., delivery robots, barista robots); social service robots instead perform emotional and social tasks, improve sociability, and prompt engaging relationships (e.g., pet robots, companion robots). Interactions with such robots lead customers to perceive that they are interacting with another social entity, and they tend to evaluate them on the basis of perceptions of experience and efficiency (Chang & Kim, 2022). Furthermore, retailers can integrate virtual service robots into their websites, such as chatbots and shopping assistants, to enhance both the efficiency of online shopping and the customer experience.

Moderating roles of time, website context, and cultural context

We differentiate three types of moderators of the relative effects of the different website attributes, related to time, website context, and cultural context, that we explore empirically in our conceptual framework.

Time. We explore the moderating role of time to empirically validate potential changes in customers' expectations of online shopping (Wallstreet Online, 2022). Retailing websites have improved over time, so efficiency-related attributes increasingly are viewed as hygiene factors, and experience-related attributes have grown in importance. This trend is in line with general retailing literature that stresses that customers have become more experience-oriented when shopping (Grewal and Roggeveen 2020). In addition, technology improves substantially over time, so experience-related attributes (e.g., entertainment, interactivity) can be delivered better. Therefore, we expect a stronger (weaker) effect of experience-related (efficiency-related) website attributes over time.

Website context. We consider the product type (goods vs. services), benefit type (utilitarian vs. hedonic), market type (niche vs. mass market), and price level (low vs. high price) as potential moderators.

First, services are more variable, less tangible, and less separable from the provider, as well as more perishable than products (Zeithaml, Parasuraman, & Berry, 1985). Experience-related attributes might be valued more and drive customer loyalty toward websites offering services versus tangible goods, due to the unique characteristics of services that make them more difficult to evaluate, compared with tangible goods (El-Manstrly, 2014). Therefore, we expect a stronger effect of experience-related (efficiency-related) website attributes for services (products).

Second, utilitarian benefits address productivity, functional attributes, and instrumental expectations; hedonic benefits focus on pleasure, sensory attributes, and affective gratification (Massey et al., 2013). Hedonic brands tend to be associated with perceptions of experience, whereas utilitarian brands tend to be associated with perceptions of efficiency (Peter & Ponzi, 2018). In turn, we expect a stronger effect of experience-related (efficiency-related) website attributes for hedonic (utilitarian) benefits.

Third, niche markets target a relatively small group of customers who have similar characteristics or needs, whereas mass markets address larger groups of customers with standardized offerings (Byrnes, 2005). Thus, efficiency is important in mass markets with a focus on standardization. In niche markets, developing long-term relationships and experience-related factors are key (Dalgic & Leeuw, 1994). Therefore, we expect a stronger effect of experience-related (efficiency-related) website attributes for niche (mass) markets.

Fourth, for high-priced offers, customers focus more on aesthetic and experience features, which may increase the importance of experience-related attributes. For low-priced offers, they typically prioritize practical or functional features, which align with perceptions of efficiency (Amatulli et al., 2018; Choi et al., 2020). Accordingly, we expect a stronger effect of experience-related (efficiency-related) website attributes for high (low) priced offers.

Cultural context. It is well established that consumer behaviors are affected by the national context (Datta et al., 2022). Thus, we expect differences in the extent to which cultural dimensions affect the importance of website evaluations in driving customer loyalty. Culture is "the collective programming of the mind which distinguishes the members of one human group from another" (Hofstede, 1991, p. 5). We consider widely used cultural dimensions, as proposed by Hofstede (2001), that are likely to have distinctive implications as the potential cultural moderators: customers' long-term orientation, self-indulgence, masculinity, and uncertainty avoidance.[1]

In cultures with a long-term orientation, relationships with companies tend to be longer-term (Furrer et al., 2000). Therefore, experience-related attributes may be a stronger driver of loyalty. Cultures with a short-term orientation focus more on achieving immediate goals and quick results. Therefore, we expect a stronger effect of experience-related (efficiency-related) website attributes for cultures high (low) on long-term orientation.

Indulgent consumption reflects genuine preferences that may signal social-emotional evaluations, which are associated with experience perceptions (Grandey et al., 2005). In contracts, people in self-restraint–oriented cultures accept that their actions to satisfy their leisure needs are restrained by social norms (Tang et al., 2021), and thus, they likely assign more importance to the functional or efficiency attributes, rather than the social and emotional attributes, of a business exchange. In turn, we expect a stronger effect of experience-related (efficiency-related) website attributes for cultures with a high (low) indulgence orientation.

Early research indicated that men are more associated with traits such as aggression, ambition, and competitiveness but less related to traits such as caring, compassion, and understanding (Eagly, 1987), which can underlie perceptions of efficiency- (vs. experience-) related attributes. However, more recent work (Kachel et al., 2016) indicates that instrumental (vs. expressive) traits have become more prevalent in feminine (vs. masculine) cultures. Thus, the relative effect of masculinity on the importance of experience- versus efficiency-related website attributes is unclear.

Unlike consumers in high uncertainty avoidance cultures, consumers in low uncertainty avoidance cultures are less motivated to look for tangible or informational cues (i.e., efficiency cues) to reduce ambiguity (Velasco et al., 2021). Instead,

[1] We examine masculinity–femininity and uncertainty avoidance dimensions as stable institutional factors (e.g., religion, language) that are less likely to change over time. We also examine long-term orientation and self-indulgence cultural dimensions, which are economic dynamics that are more likely to change (Tang & Koveos, 2008). We had to exclude individualism–collectivism and power distance, due to their well-known collinearity problems with indulgence orientation ($r = -.78$ and $r = .82$). Recent evidence also indicates that these cultural differences have declined in intensity over time (Heuer, Cummings, & Hutabaratt, 1999).

these consumers may focus on attributes that signal relational versus functional bonds (Wagoner & Hogg, 2016). Therefore, we expect a stronger effect of experience-related (efficiency-related) website attributes for cultures with a low (high) uncertainty avoidance.

Mediating roles of service quality, customer satisfaction, perceived value, and trust

The effects of website attributes on customer loyalty may be both direct and indirect. According to Blut et al. (2015), website attributes improve service quality perceptions (i.e., overall superiority of the service provided by the website; Zeithaml, 1988), which then affect customer satisfaction and customer loyalty. In this context, customer satisfaction refers to customers' judgments that a product or service provides a pleasurable level of consumption-related fulfillment (Oliver, 2010). Alternative mechanisms to explain how website attributes affect customer loyalty are also available. Perceived value refers to customers' perceptions of the benefits, minus the costs, of maintaining a relationship with a service provider (Sirdeshmukh et al., 2002); Cronin et al. (2000) find that both perceived value and satisfaction mediate the effects of service quality on customer loyalty, in addition to its direct effect. Harris and Goode (2004) extend the set of potential mediating mechanisms, by presenting a model in which trust has a pivotal mediating role between service quality and customer loyalty, beyond perceived value and customer satisfaction. Trust refers to customers' confidence in the exchange partner's reliability and integrity (Morgan & Hunt, 1994). In line with an empirics-first approach, we explore the magnitude of the direct and indirect effects of the constructs in our conceptual framework.

Measuring experience- and efficiency-related website attributes

Following the experience versus efficiency distinction in smart technology research (Choi et al., 2020), we classify different website attributes into experience-related (i.e., aesthetics, entertainment, and interactivity) and efficiency-related (i.e., content, fulfillment, navigation, and privacy) categories,[2] using three complementary approaches: theoretical grouping, a pilot study that links website attributes to either experience or efficiency, and a factor analysis using the meta-analytic data. Taken together, these methods confirm the proposed distinction between experience- and efficiency-related website attributes.

Theoretical grouping

Theory suggests that aesthetics, entertainment, and interactivity likely constitute experience-related website attributes. *Aesthetics* refer to elements of visual design, such as a website's balance, appeal, and uniformity (Cyr, 2008). *Entertainment* refers to the degree to which the website arouses positive feelings, fun, and an enjoyable experience (Barrutia & Gilsanz, 2013). *Interactivity* implies the availability of customer support tools, as well as the degree to which the website facilitates two-way communication (Srinivasan et al., 2002). In contrast, navigation, fulfilment, content, and privacy are likely efficiency-related website attributes. *Navigation* pertains to the perceived effort and ease of use associated with online purchases (Parasuraman et al., 2005) and should enable customers to find items effortlessly, ensuring an efficient shopping experience. *Fulfillment* entails the successful delivery of the correct order, on time and in good condition (Collier & Bienstock, 2006). *Content* reflects the extent to which complete, accurate, and timely information is available (Dai, Haried, & Salam, 2011). *Privacy* refers to website policies and features that protect customers' financial and personal information (Chen & Dibb, 2010).

Pilot study

A pilot study reported in Web Appendix A validated our theoretical grouping of website attributes. Using a 4-point semantic interval, with "1 = experience attribute" and "4 = efficiency attribute" as a rating scale, we find that high levels of aesthetics, entertainment, and interactivity are associated with experience-related website attributes ($M\langle 1.57$, $|t|\rangle 8.5$, $p < .05$), whereas high-levels of content, fulfilment, navigation, and privacy are associated with efficiency-related website attributes ($M > 2.96$, $|t| > 2.8$, $p < .05$).

Factor analysis

An exploratory factor analysis using the meta-analytic data confirms the proposed classification, as detailed in Web Appendix B. Aesthetics, entertainment, and interactivity load on an experience-related website attributes factor; content, fulfillment, navigation, and privacy load on an efficiency-related website attributes factor (all loadings > 0.6, all cross-loadings < 0.5).

[2] We also considered customization but did not include it as an experience-related or efficiency-related website attribute, on the basis of the empirical evidence we report in Web Appendixes B and C: Customization does not clearly load on either factor, in either the pilot study or the factor analysis using the meta-analytic data.

Data collection

Literature review, inclusion criteria, and search process

We searched for all studies that report the effect(s) of experience- and/or efficiency-relates website attribute(s) on customer loyalty or mediators. To identify them, we undertook a six-step literature search process. First, we searched various databases (e.g., ABI/Informs, Science Direct), using keywords such as online loyalty and website loyalty. Interest in online customer loyalty largely started in the early 2000s; an influential definition came from Srinivasan et al. in 2002. Thus, we focused our search on articles published between 2000 and 2021. Second, we searched the reference lists of the identified papers. Third, we searched for relevant papers published in retailing, marketing, management, and information systems journals. Fourth, we contacted researchers (via ELMAR), seeking their unpublished works. Fifth, we examined conference proceedings (e.g., American Marketing Association). Sixth, we used Google Scholar to retrieve "fugitive literature." This search process resulted in 2962 published and unpublished full-text articles, reporting the effect(s) of experience- and/or efficiency-related website attribute(s) on customer loyalty or mediators, from which we screened out duplicates. Removing duplicates resulted in a sample of 2646 articles that we screened for relevance. With this assessment, we excluded 2202 articles and retained 444 that we then assessed for eligibility. We removed 271 papers that are conceptual or qualitative articles, do not report reliable statistical information that can be converted to effect sizes, and/or stem from low quality sources. The search process is documented in Web Appendix C. Notably, our study goes beyond existing meta-analytical studies, as summarized in Web Appendix D.

Sample composition

Our final sample for analysis consists of 1296 effect sizes gathered from 173 studies, conducted in 27 different countries, involving 119,099 customers, and reflecting more than 20 years of website attribute effects. Almost all studies in our sample focus on transactional websites (169 studies, 98%) and thus fit with our online retailing focus.[3] Table 1 summarizes the richness of our sample in terms of geographical coverage and different industries. In total, we obtained 150 effects for aesthetics, 128 effects for entertainment, and 211 effects for interactivity to measure experience-related attributes, as well as 167 effects for content, 197 effects for fulfillment, 240 effects for navigation, and 203 effects for privacy to measure efficiency-related attributes.

Coding protocol and coding

To reduce errors, we prepared a coding protocol that specified which information to extract from each study, including the definition and operationalization of website attributes and outcomes (Table 2). Similar to Palmatier et al. (2006), to deal with heterogeneous operationalizations across studies, we had two coders independently review the variables in all studies by examining both their construct definitions and the exact item wording. Thus, constructs with different meanings are coded as distinct, and constructs with similar meanings are coded as similar. The coders also extracted the type of loyalty (attitudinal, behavioral, or a mix) and identified additional outcomes: website loyalty, service quality, perceived value, trust, and satisfaction. Web Appendix E presents representative studies featuring each attribute and outcome. The coders also extracted study characteristics and independently dummy-coded the moderators (Web Appendix F). Overall interrater reliability was 0.96, and the coders resolved any remaining differences through discussion. We use the country in which each study was conducted to measure the cultural context, according to Hofstede's (2022) dimensions.

Effect size measures and calculations

When possible, we used correlation coefficients from the studies' correlation matrices as effect size measures. As needed, we converted other statistics to correlation coefficients, using available formulae. Not all empirical studies report correlations or statistics that can be converted to correlations though. In those cases, we e-mailed the authors, seeking the relevant data. The coders also extracted sample sizes and construct reliability. For the meta-analysis, we required that each link between a website attribute and loyalty appeared at least five times; otherwise, the significance tests would be underpowered. In total, we obtained 1296 pairwise effect sizes for website attributes and the different outcomes, along with 1614 additional effects sizes among website attributes.[4]

In line with Palmatier et al. (2006), we used a random effects approach at the effect-size level, to allow for corrections of statistical artifacts and provide accurate estimates of the average strength and variance of a relationship in the population of interest. We calculated the fail-safe N, or the number of nonsignificant and unavailable studies needed to make the cumulative effect size nonsignificant, as a check for a potential publication bias. We also prepared funnel plots of the effect size r for each study compared with the standard error, based on study size (Web Appendix G). A publication bias would

[3] In the four remaining studies, customers pay for membership or premium services (e.g., online newspapers, games), so they still exhibit a transactional element.

[4] All studies are listed in the Web Appendix N.

Table 1
Sample composition.

	Geographical Coverage	Number of Effects	Percentage
1.	Australia	104	8.02%
2.	Canada	36	2.78%
3.	China	46	3.55%
4.	Cyprus	30	2.31%
5.	Finland	5	0.39%
6.	France	3	0.23%
7.	Germany	59	4.55%
8.	Greece	23	1.77%
9.	Hong Kong	15	1.16%
10.	India	24	1.85%
11.	Indonesia	6	0.46%
12.	Iran	5	0.39%
13.	Italy	15	1.16%
14.	Korea	35	2.70%
15.	Kuwait	9	0.69%
16.	Malaysia	6	0.46%
17.	New Zealand	10	0.77%
18.	Northern Ireland	10	0.77%
19.	Portugal	3	0.23%
20.	South Africa	11	0.85%
21.	Spain	100	7.72%
22.	Taiwan	113	8.72%
23.	The Netherlands	20	1.54%
24.	Turkey	9	0.69%
25.	United Kingdom	41	3.16%
26.	United States	491	37.89%
27.	Vietnam	22	1.70%
	Several Countries	*45*	*3.47%*
	Industries		
1.	Apparel and Fashion	40	3.09%
2.	Books and CDs/DVDs	83	6.40%
3.	Electronics	56	4.32%
4.	Financial Services	138	10.65%
5.	Grocery	16	1.23%
6.	Online Retailing (Mixed)	619	47.76%
7.	Software	31	2.39%
8.	Sport and Entertainment	122	9.41%
9.	Telecommunication	11	0.85%
10.	Travel and Hospitality	137	10.57%
	Other Industries	*43*	*3.32%*

make the funnel plot appear asymmetric and display empty spaces, particularly in the lower left corner. However, the high fail-safe N and symmetric funnel plots suggest a low risk of publication bias.

Fig. 2A provides model-free evidence of the effect sizes of website attributes on customer loyalty over time. The effect size for customer loyalty appears to increase over time, with a stronger increase in the importance of experience-related website attributes.

Methods and results

We report results pertaining to the (1) bivariate relationships between experience- and efficiency-related website attributes and customer outcomes; (2) the meta-analytical regression analysis we undertook to assess the moderating effects of time, website context, and cultural context; and (3) meta-analytic structural equation modeling, which we used to assess the mediating effects of service quality, perceived value, trust, and satisfaction.

Bivariate results

For each bivariate relationship, we report the 95% confidence interval (CI) of the sample-weighted reliability-adjusted average correlation in Web Appendix H. The results show significant effects of both experience-related ($r = 0.48$, $p < .01$) and efficiency-related ($r = 0.40$, $p < .01$) website attributes on customer loyalty. To test for the equality of these effects, we compute p-values for the difference of the Fisher-transformed r values. Experience-related website attributes are more strongly related to customer loyalty than efficiency-related website attributes ($z = 26.31$, $p < .01$). We also find significant effects on other outcomes, pointing toward potential indirect effects of website attributes on customer loyalty. In addition, the significant Q-tests of homogeneity suggest significant variances in effect sizes and the need for moderator analyses.

Table 2
Definition and operationalization of website attributes and outcomes.

Variable	Definition Used to Code Studies	Terms Used in Prior Literature
Website Attribute		
Aesthetics *(Experience)*	Elements of visual design that deal with balance, emotional appeal, aesthetics, and uniformity of the website's overall graphical look (Cyr, 2008)	Background patterns; character graphics; screen layout; visual design; web appearance
Entertainment *(Experience)*	Degree to which the website arouses positive feelings (Barrutia & Gilsanz, 2013)	Emotional benefits; enjoyable experience; flow; fun
Interactivity *(Experience)*	Availability and effectiveness of customer support tools on a website, and the degree to which two-way communication with customers is facilitated (Srinivasan et al., 2002)	Chat function; help tools; helpline; responsiveness; two-way communication
Content *(Efficiency)*	Extent to which complete, accurate, and timely content is provided to online consumers (Dai, Haried, & Salam, 2011)	Accessibility; accuracy; effectiveness; informativeness; relevancy
Fulfillment *(Efficiency)*	Successful delivery of the correct order, on time and in good condition (Collier & Bienstock, 2006)	On-time delivery; order tracking; system availability; system quality
Navigation *(Efficiency)*	Perceived effort and ease of use for online purchasing and perceived processing speed and organization of the website (Parasuraman et al., 2005).	Convenience; ease of use; efficiency; search speed; usability
Privacy *(Efficiency)*	Extent to which the website handles and protects customers' financial and personal information (Chen & Dibb, 2010)	Information safety; online security; risk-free transactions; safe transactions
Customization *(indifferent)*	Ability of an online retailer to tailor products, services, and the transactional environment to individual customers (Srinivasan et al., 2002)	Personalization
Outcomes		
Customer loyalty	Expressed preference for a company and intention to purchase from it in the future (Herhausen et al., 2020)	*See below*
Attitudinal loyalty	Existence of beliefs that a company is preferable to others and favorable attitude or liking (Harris & Goode, 2004)	Liking; preference; visit intentions; word of mouth; word-of-mouth intentions
Behavioral loyalty	Favorable behavior or behavioral intentions towards a company (Harris & Goode, 2004)	Customer retention, repurchase intention; revisit intentions
Service quality	Overall excellence or superiority of the service (Zeithaml, 1988)	Perceived service quality; e-service quality
Perceived value	Customers' perceptions of overall value: benefits minus the costs of maintaining an ongoing relationship with a firm (Sirdeshmukh, Singh, & Sabol, 2002).	Value for money, utilitarian value, relationship value
Trust	Confidence in an exchange partner's reliability and integrity (Morgan & Hunt, 1994)	Benevolence; integrity; reliability; reputation
Satisfaction	Customers' overall judgment that a product or service provides a pleasurable level of consumption-related fulfillment (Oliver, 2010)	Overall satisfaction; cumulative satisfaction

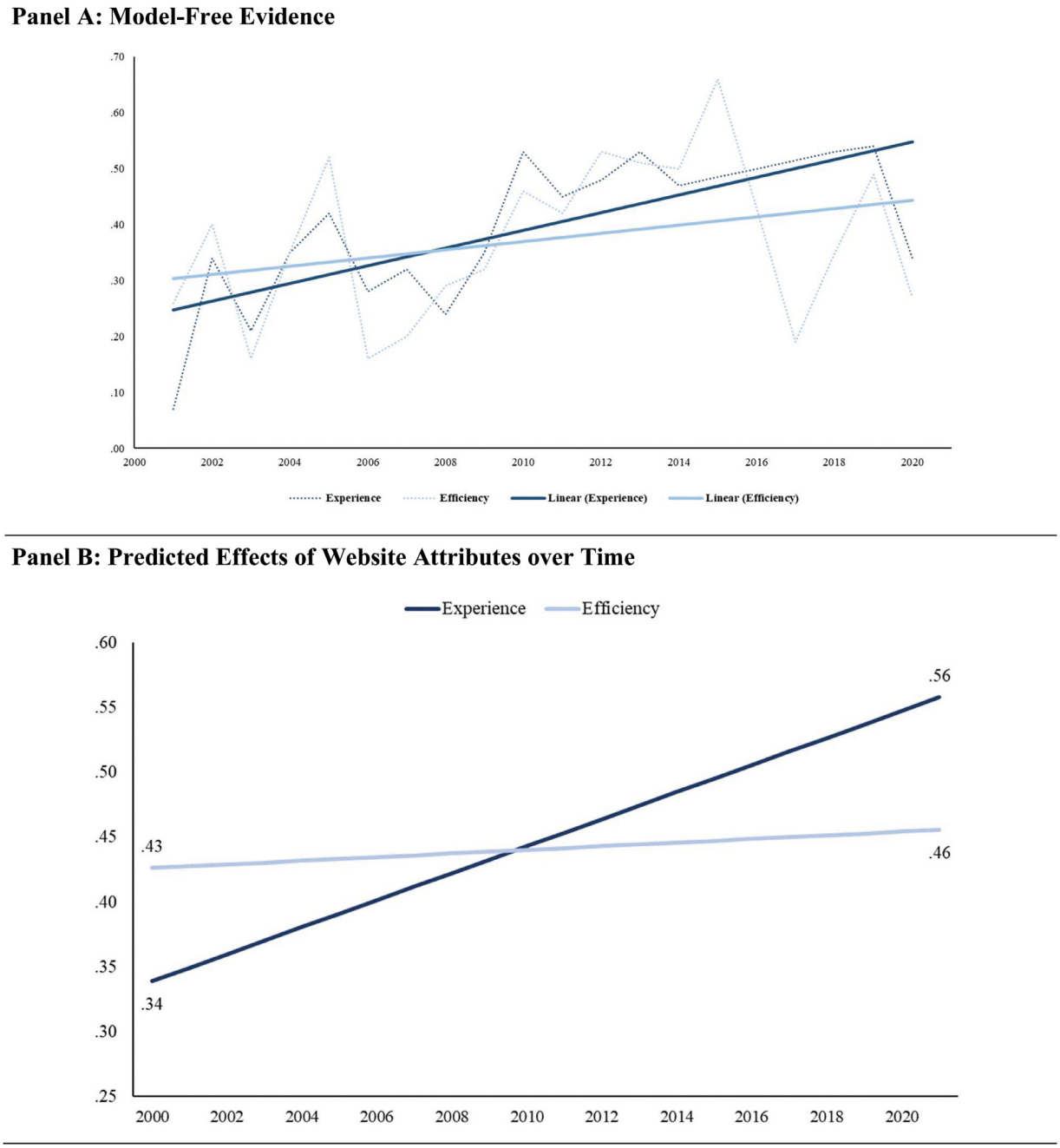

Fig. 2. Effect sizes of website attributes for customer loyalty over time. *Notes:* Panel B shows the predicted *r*, controlling for the effects of all other variables.

Moderation results

To explore the impact of the moderators on both the experience- and efficiency-related website attributes–loyalty links, we must account for the structure of the data. The effect sizes are nested within samples, which could lead to correlated errors. We therefore specify a mixed-effects meta-regression model using a multilevel parameterization in which (1) observed effect sizes are assumed to be a normally distributed random sample of the population of true effect sizes, and (2) the variance distribution of true effect sizes can be explained by random effects at the effect size level and sample level, to account for data nesting, and by the fixed effects of moderators on the effect size level (e.g., measure of customer loy-

alty) and sample level (e.g., cultural context).[5] Also, the studies in the meta-analysis differ in many ways. To ensure that observed variance is not caused by other factors, we include several control variables related to the method and measurement characteristics of the sampled studies. Thus, the effect size i extracted from sample j is modeled as follows:

$$\begin{aligned} ES_{ij} = {} & y_{00} + y_{01}Time + y_{02}Product_Type_j \\ & + y_{03}Benefit_Type_j + y_{04}Market_Type_j \\ & + y_{05}Price_Level_j + y_{06}Long_Term_j \\ & + y_{07}Indulgence_j + y_{08}Masculinity_j \\ & + y_{09}Uncertainty_Avoidance_j \\ & + y\sum_{10}^{19}Controls_j + y_1Attitudinal_Loyalty_{ij} \\ & + y_2Bebavioral_Loyalty_{ij} + u_{0j} + e_{ij}, \end{aligned} \tag{1}$$

where $\sum_{10}^{19}Controls$ is a vector of control variables, mixed loyalty is the reference category on the effect size level, u_{0j} is the study-level residual, and e_{ij} is the effect size–level residual. We also control for study characteristics that may influence the effect size results: *sample size*, because larger samples may provide more accurate estimates of website attribute effects; data collection that takes place *online* versus *offline*, in that the online context may strengthen website attribute effects; the use of *panel respondents*, who might be extrinsically motivated and provide lower quality answers, or *student respondents*, who tend to be familiar and comfortable with e-commerce and the internet in general, such that website attributes might matter less to them; *demographics*, including the average age of participants, percentage of male participants, and percentage of higher education among participants, all characteristics that might influence website attributes effects; a *B2B or B2C focus* of the website, with the prediction that effect sizes might be higher for B2C and *contractual* websites; and whether *regression* versus *correlation coefficients* were used to calculate the effect size, because the presence of other variables for regression coefficients absorbs some variance, and thus effect sizes calculated based on simple correlations may be larger than those converted from multiple regression coefficients. We also account for whether the *measurement of customer loyalty* is attitudinal, behavioral, or a combination of both (as reference category). Not all studies report information on all controls, so we impute an overall mean for conservative estimations. We provide the correlation matrix in Web Appendix I. Multicollinearity is not a concern; the highest variance inflation factor is 3.29.

Table 3 summarizes the results. We first ran separate models for experience- and efficiency-related website attributes, and we report predicted effect sizes for each moderator when all other moderators remain at their sample average. We then pooled the two samples for robustness and to interpret the effects of the moderators.[6]

Time. Both effects increase over time, but the slope for experience-related website attributes ($\gamma = 0.010$, $p < .10$) is steeper than that for efficiency-related website attributes ($\gamma = 0.004$, *ns*). A significant interaction confirms this observation ($\gamma = -0.009$, $p < .05$). We display the predicted effects of website attributes over time in Fig. 2B, which indicates that, unlike the findings for efficiency-related website attributes, the importance of experience-related attributes increases over time.

Website context. The product type determines the importance of experience- and efficiency-related website attributes as drivers of customer loyalty. For services, experience-related website attributes ($r = 0.47$) are significantly more important than efficiency-related website attributes ($r = 0.36$, $\Delta r = 0.11$, $p < .01$). In contrast, for goods, efficiency-related website attributes ($r = 0.52$) are more important than experience-related attributes ($r = 0.42$, $\Delta r = 0.06$, $p < .05$) (see Fig. 3A). A significant interaction confirms this observation ($\gamma = -0.107$, $p < .01$). However, benefit type, market type, and price level do not affect the relative importance of experience- and efficiency-related website attributes.

Cultural context. Experience-related website attributes ($r = 0.49$) are more important than efficiency-related website attributes ($r = 0.36$, $\Delta r = 0.13$, $p < .01$) for cultures with a long-term orientation (+1.5 SD the sample mean), whereas efficiency-related website attributes ($r = 0.52$) are more important than experience-related website attributes ($r = 0.40$, $\Delta r = 0.12$, $p < .01$) for cultures with a short-term orientation (−1.5 SD the sample mean) (see Fig. 3B). A significant interaction confirms this observation ($\gamma = -0.333$, $p < .01$). Efficiency-related website attributes ($r = 0.48$) are more important than experience-related website attributes ($r = 0.37$, $\Delta r = 0.11$, $p < .01$) for self-constrained cultures (−1.5 SD the sample mean), and experience-related website attributes ($r = 0.52$) are more important than efficiency-related attributes ($r = 0.40$, $\Delta r = 0.12$, $p < .01$) for self-indulgent cultures (Fig. 3C). The significant interaction confirms this observation too ($\gamma = -0.488$, $p < .01$). Efficiency-related website attributes ($r = 0.53$) are more important than experience-related

[5] Multilevel modeling literature provides some guidance about required sample sizes to ensure robust results. Maas and Hox (2005) stress that higher-level sample sizes are more critical; a sample of around 50 likely is sufficient to avoid biased estimates of the second-level standard errors. Both our models are based on more than 50 samples.

[6] Web Appendix L provides additional robustness tests, in which we use the mediators as outcomes in mixed-effects meta-regression models. However, given the small sample sizes, these results need to be interpreted with caution.

Table 3
Results for the moderators.

	Experience		Efficiency		Combined Model	Experience	Efficiency	Test of Equality
	y	SE	y	SE		*r*	*r*	
Intercept	.268**	.118	.273**	.108				
Time								
Study Year	.010*	.006	.004	.005	−0.009**			
2000						.340	.425	Exp < Eff
2020						.548	.453	Exp > Eff
Website Context								
Product Type	.042	.051	−0.073	.060	−0.107***			
Services						.471	.359	Exp > Eff
Goods						.417	.520	Exp < Eff
Benefit Type	.241***	.058	.213***	.050	.037			
Hedonic Offers						.639	.671	Exp = Eff
Utilitarian Offers						.249	.207	Exp = Eff
Market Type	.112*	.062	.123*	.070	−0.013			
Mass Market						.557	.539	Exp = Eff
Niche Market						.331	.340	Exp = Eff
Price Level	.040	.051	.024	.051	.021			
High Price						.466	.482	Exp = Eff
Low Price						.422	.396	Exp = Eff
Cultural Context								
Long-Term Orientation	.248*	.135	−0.246**	.123	−0.333***			
−1.5 SD Long-Term Orientation						.397	.519	Exp < Eff
+1.5 SD Long-Term Orientation						.491	.360	Exp > Eff
Self-Indulgence	.495*	.288	−0.133	.172	−0.488***			
−1.5 SD Self-Indulgence						.366	.479	Exp < Eff
+1.5 SD Self-Indulgence						.522	.400	Exp > Eff
Masculinity	−0.124	.231	−0.384*	.200	−0.293**			
−1.5 SD Masculinity						.482	.527	Exp < Eff
+1.5 SD Masculinity						.406	.351	Exp > Eff
Uncertainty Avoidance	.015	.155	.017	.122	−0.020			
−1.5 SD Uncertainty Avoidance						.458	.459	Exp = Eff
+1.5 SD Uncertainty Avoidance						.430	.420	Exp = Eff
Measurement of Customer Loyalty								
Attitudinal Loyalty	−0.043	.042	−0.075	.052	−0.050			
Behavioral Loyalty	−0.024	.055	−0.014	.050	−0.007			
Sample Controls								
Sample Size	.001*	.001	.001	.001	.000			
Data Collection Online (vs. Offline)	−0.015	.065	.016	.049	−0.006			
Panel (vs. Non-Panel) Members	.044	.059	−0.019	.061	−0.104*			
Students (vs. Non-Students)	−0.022	.058	−0.045	.057	−0.022			
Average Age	−0.003	.004	−0.002	.004	.004*			
Percentage Male	−0.001	.002	−0.001	.002	−0.001			
Percentage Higher Education	.001	.001	.001	.001	.000			
B2B (vs. B2C) Focus	−0.124	.105	.052	.120	.102			
Contractual Website	.143**	.072	.134**	.066	.025			
Regression (vs. Correlation)	.002	.075	.083	.071	.059			
K (Total N)	197 (67,402)		314 (66,096)		511 (84,0909)			

** $p < .01$, * $p < .05$. *Notes:* We use mixed loyalty as the reference category. Web Appendix N reports the full results of the combined model. We test for the equality of effects by computing the *p*-value of the difference of the Fisher-transformed predicted *r*, using the average sample size. Exp = experience-related website attributes, Eff = efficiency-related website attributes.

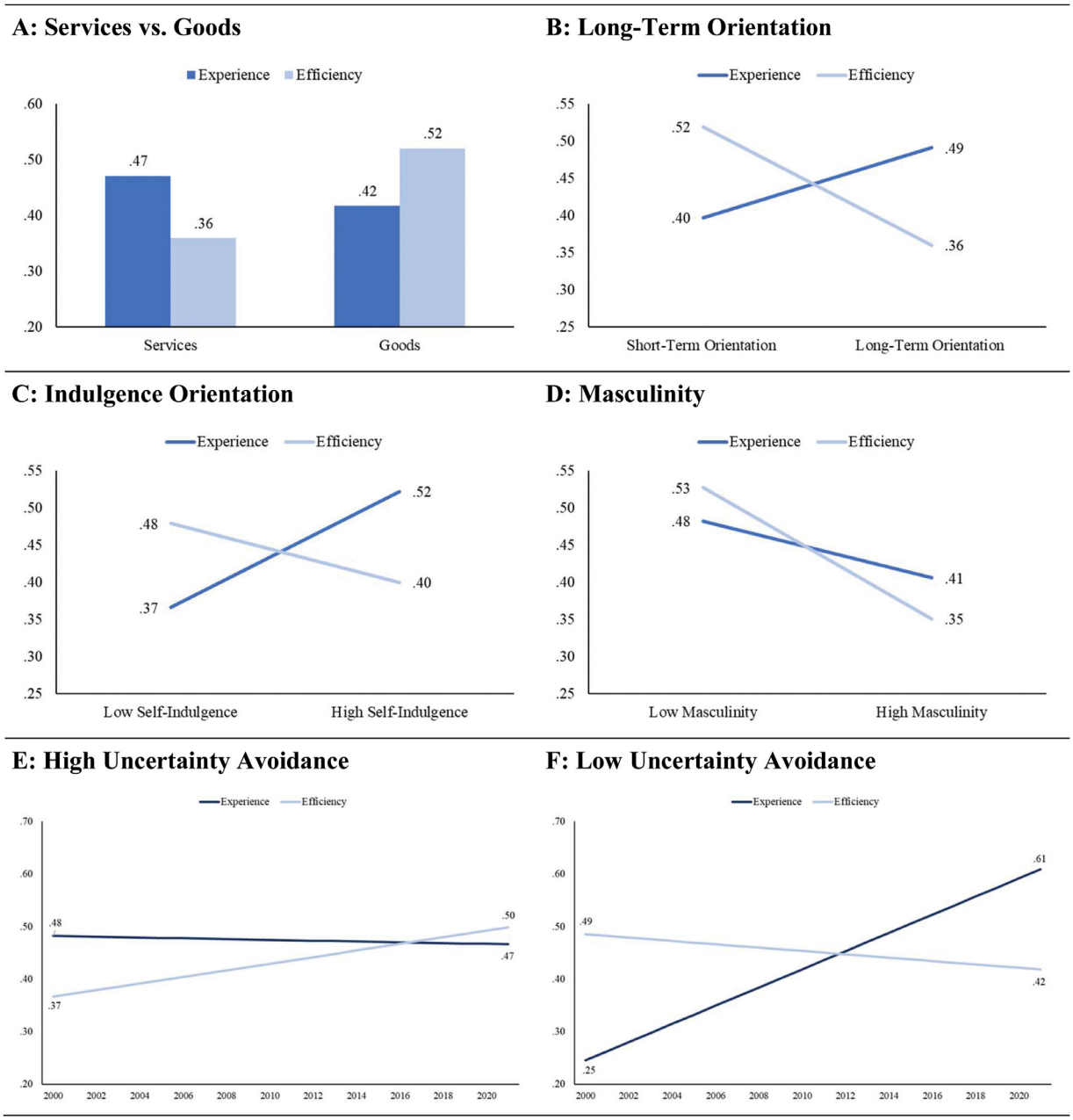

Fig. 3. Contextual moderators of website attributes. *Notes:* These graphs show the predicted r for the effects of website attributes on customer loyalty. We display ±1.5 SD for long-term orientation, indulgence orientation, and masculinity.

website attributes ($r = 0.48$, $\Delta r = 0.05$, $p < .10$) for feminine cultures (−1.5 SD the sample mean), and experience-related website attributes ($r = 0.41$) are more important than efficiency-related attributes ($r = 0.35$, $\Delta r = 0.06$, $p < .05$) for masculine cultures (Fig. 3D), as confirmed by the significant interaction ($\gamma = -0.293$, $p < .05$). Uncertainty avoidance does not affect the importance of experience- versus efficiency-related website attributes as drivers of customer loyalty.

We also explored potential three-way interactions to test whether time effects influence the effectiveness of the other moderators. To undertake this exploratory assessment, we started by testing all possible three-way interactions, one by one, to identify and retain only those that are significant. We only found a significant effect of uncertainty avoidance ($\gamma = 0.083$, $p < .01$); Fig. 3E and F display the predicted effects of the website attributes over time for cultures that score high and

low on uncertainty avoidance, respectively. Specifically, over time, efficiency-related website attributes gain in importance in cultures with high uncertainty avoidance (from 0.37 to 0.50, $\Delta r = 0.13$, $p < .01$), but experience-related attributes gain in importance in cultures with low uncertainty avoidance (from 0.25 to 0.61, $\Delta r = 0.36$, $p < .01$).

Mediation results

We use meta-analytic structural equation modeling (MASEM) to assess the mediating effects of service quality, perceived value, trust, and satisfaction in the relationships of experience- and efficiency-related website attributes with customer loyalty. In so doing, we control for the potential effect of customization as an additional website attribute, as well as for internet experience, income, education, gender, and age as characteristics of the study participants that may influence the mediators and outcomes.[7] To calculate the MASEM, we used the correlation matrix in Web Appendix H and the harmonic mean ($N = 1021$). We tested six competing models (Web Appendix J). Model 1 specifies service quality, perceived value, trust, and satisfaction as parallel mediators in the relationships of efficiency- and experience-related website attributes with customer loyalty. All other models treat service quality as a first-stage mediator and perceived value, trust, and satisfaction as second-stage mediators. Models 2–5 reflect the different models suggested by Cronin, Brady, and Hult (2000), with perceived value, trust, or satisfaction as the core antecedent of loyalty, respectively. Model 5 includes direct links from all three variables to loyalty, and Model 6 is based on Harris and Goode's (2004) model, in which trust is a pivotal mediator.

Web Appendix K contains the results for the six competing models. Model 6 offers the best fit with the data: χ^2 (degrees of freedom) = 28.58 (18), comparative fit index = 1.00, Tucker-Lewis index = 0.99, root mean square error of approximation = 0.02, and standardized root mean square residual = 0.02. Other than the experience-related website attributes–perceived value ($\beta = 0.00$, $p = .96$) and efficiency-related website attributes–loyalty ($\beta = 0.02$, $p = .68$) links, all the direct relationships in the model are supported. In Web Appendix L, we display all effects of controls, and Table 4 reports the total and indirect effects of experience- and efficiency-related website attributes on customer loyalty. The total effect of experience-related website attributes ($\beta = 0.25$, $p < .01$) on customer loyalty is greater than the total effect of efficiency-related attributes ($\beta = 0.18$, $p < .01$, $\chi^2 = 7.31$, $p < .01$). Adding the controls, experience-related website attributes still appear more important than efficiency-related website attributes for determining customer loyalty. The direct effect of experience-related website attributes on loyalty accounts for 76% of the total effect; the mediators we examined explain only about one-quarter of the effects (we return to this point subsequently). In contrast, the effect of efficiency-related website attributes on loyalty is nearly fully explained by the mediators we examined—primarily by trust (45%), followed by satisfaction (30%) and perceived value (25%).[8]

Conclusion and discussion

Anecdotal evidence indicates that today's online consumer seeks not only convenience and efficiency but also an enjoyable experience. Using an empirics-first approach, this study provides initial, practical insights regarding the relative importance of efficiency-related versus experience-related website attributes and their heterogeneous effects on customer loyalty. Using a rich data set across multiple contexts and time periods, we derive new and evolving patterns by which different website attributes relate to customer loyalty.

Findings

Experience- and efficiency-related website attributes. In our data, we find that (1) both experience-related and efficiency-related website attributes influence customer loyalty, (2) experience-related website attributes are more strongly related to customer loyalty (bivariate relationship), and (3) the total effect of experience-related website attributes on customer loyalty is relatively greater (Table 4). The latter point runs somewhat counter to conventional practices, in which online retail websites tend to focus on efficiency, as we discussed previously. These findings thus have implications for both theory and practice. From a theoretical perspective, they suggest that experience-related attributes should receive relatively more focus when developing predictions of online website effectiveness. From a practical perspective, they suggest that online retailers should focus more on experience-related attributes to increase customer loyalty.

We also examine contingencies that determine when experience- versus efficiency-related attributes exert stronger impacts on customer loyalty. This examination also has implications for both theory and practice. First, it clarifies the conditions in which experience- versus efficiency-related attributes have stronger influence on customer loyalty. Second, as new experience- or efficiency-related attributes arise, beyond those we discuss herein, researchers can use our findings to predict which of those novel attributes are likely to have stronger influences on customer loyalty. From a practical standpoint, our examination clarifies the contexts and time periods in which online retailers should prioritize experience- versus

[7] For some control variable relationships, we found fewer than five effects sizes. Following advice from Bergh et al. (2016), we searched again for relevant studies, using more specific search criteria, to obtain more correlations.

[8] Using only behavioral loyalty as an outcome in the mediation analysis does not affect the results: We still find that experience-related website attributes directly affect customer loyalty.

Table 4
Results for the mediators.

	Effect	Relative Importance
Total Effect of Experience on Customer Loyalty	***.254** (0.191, 0.316)***	
Direct Effect of Experience-related website attributes on Loyalty	.192** (0.132, 0.252)	Direct = 76%
Total Indirect Effect of Experience-related website attributes on Loyalty	.062** (0.039, 0.085)	
Indirect Effect via Perceived Value	.002 (−0.004, 0.010)	Perceived Value = 0%
Experience-related website attributes → Perceived Value → Loyalty	*.000 (−0.004, 0.004)*	
Experience-related website attribute → Service Quality → Perceived Value → Loyalty	*.002 (0.000, 0.006)*	
Indirect Effect via Trust	.026** (0.006, 0.046)	Trust = 10%
Experience-related website attributes → Trust → Loyalty	*.021** (0.008, 0.034)*	
Experience-related website attributes → Perceived Value → Trust → Loyalty	*.000 (−0.003, 0.003)*	
Experience-related website attributes → Service Quality → Trust → Loyalty	*.002* (0.000, 0.005)*	
Experience-related website attributes → Service Quality → Perceived	*.003** (0.001, 0.004)*	
Value → Trust → Loyalty		
Indirect Effect via Satisfaction	.034** (0.010, 0.054)	Satisfaction = 14%
Experience-related website attributes → Satisfaction → Loyalty	*.020** (0.007, 0.032)*	
Experience-related website attributes → Trust → Satisfaction → Loyalty	*.006** (0.002, 0.009)*	
Experience-related website attributes → Service Quality → Satisfaction → Loyalty	*.006** (0.002, 0.010)*	
Experience-related website attributes → Perceived	*.000 (−0.001, 0.001)*	
Value → Trust → Satisfaction → Loyalty		
Experience-related website attributes → Service	*.001* (0.000, 0.001)*	
Quality → Trust → Satisfaction → Loyalty		
Experience-related website attributes → Service Quality → Perceived	*.001** (0.000, 0.001)*	
Value → Trust → Satisfaction → Loyalty		
Total Effect of Efficiency on Customer Loyalty	***.178** (0.117, 0.239)***	
Direct Effect of Efficiency-related website attributes on Loyalty	.015 (−0.055, 0.085)	Direct = 0%
Total Indirect Effect of Efficiency-related website attributes on Loyalty	.163** (0.119, 0.208)	
Indirect Effect via Perceived Value	.040* (0.001, 0.080)	Perceived Value = 25%
Efficiency-related website attributes → Perceived Value → Loyalty	*.035* (0.001, 0.069)*	
Efficiency-related website attributes → Service Quality → Perceived Value → Loyalty	*.005 (0.000, 0.011)*	
Indirect Effect via Trust	.074** (0.038, 0.100)	Trust = 45%
Efficiency-related website attributes → Trust → Loyalty	*.032** (0.015, 0.049)*	
Efficiency-related website attributes → Perceived Value → Trust → Loyalty	*.032* (0.019, 0.045)*	
Efficiency-related website attributes → Service Quality → Trust → Loyalty	*.005* (0.001, 0.008)*	
Efficiency-related website attributes → Service Quality → Perceived	*.005** (0.003, 0.008)*	
Value → Trust → Loyalty		
Indirect Effect via Satisfaction	.049** (0.020, 0.076)	Satisfaction = 30%
Efficiency-related website attributes → Satisfaction → Loyalty	*.017** (0.004, 0.029)*	
Efficiency-related website attributes → Trust → Satisfaction → Loyalty	*.009** (0.004, 0.013)*	
Efficiency-related website attributes → Service Quality → Satisfaction → Loyalty	*.012** (0.006, 0.018)*	
Efficiency-related website attributes → Perceived Value → Trust → Satisfaction → Loyalty	*.009** (0.005, 0.012)*	
Efficiency-related website attributes → Service Quality → Trust → Satisfaction → Loyalty	*.001* (0.000, 0.002)*	
Efficiency-related website attributes → Service Quality → Perceived	*.001** (0.001, 0.002)*	
Value → Trust → Satisfaction → Loyalty		

** $p < .01$, * $p < .05$. Notes: We report the effects from Model 6 in Web Appendix K, with 95% confidence intervals in parentheses.

experience-related attributes to increase customer loyalty. We discuss these moderators and their mechanisms in more detail next.

Moderating effects of experience- and efficiency-related website attributes. Our results indicate that the effects of experience- and efficiency-related website attributes on customer loyalty are contingent on time and various contextual and cultural factors. In general, the importance of both categories of website attributes has increased over time—but more so for experience-related website attributes. This point supports recent shifts in consumer preferences and technological developments; experience-related website attributes include entertainment and interactivity, and recent decades have seen substantial technology leaps that facilitate consumers' growing demands for such website attributes.

Relatively speaking, experience-related website attributes affect customer loyalty more for services, and efficiency-related attributes exert a greater impact for goods. This finding aligns with prior work that indicates services are more challenging to evaluate, due to their experiential nature (El-Manstrly et al., 2021). Consequently, when evaluating services, customers may rely more on experience-related website attributes, in that these experiential aspects significantly shape their perceptions of services and, in turn, their loyalty.

Next, we consider cultural context factors. Efficiency- (vs. experience-) related website attributes are more important for driving customer loyalty in short- (vs. long-) term–oriented cultures. This point is consistent with the profile of cultures with a short-term orientation, which focus relatively more on the present (vs. future) ("cultures with a short-term orientation are generally present-focused," Haga et al., 2019, p. 100), such that they prioritize benefits available right now, including efficiency-related website features. Then, efficiency- (vs. experience-) related website attributes are more important for driving customer loyalty among people who are relatively more self-restrained. This point is consistent with predictions that people in self-restrained cultures tend to attend more closely to social norms (Tang et al., 2021) and assign more importance to functional or efficiency attributes, rather than social and emotional attributes, in business exchanges. Furthermore, self-restrained customers usually are cautious, akin to being prevention focused (Ruiz-Equihua et al., 2020), and a prevention focus aligns with a preference for efficiency (Ahn et al., 2020). Combining these insights, it seems reasonable that efficiency-related website attributes would be more effective among relatively self-restrained customers. Finally, experience- (vs. efficiency-) related website attributes are more important for driving customer loyalty in masculine (vs. feminine) cultures. As we discussed previously, our initial predictions were ambiguous. On the one hand, men are more associated with traits such as competitiveness and less linked to traits such as caring and compassion (Eagly, 1987), which can underlie a preference for efficiency- (vs. experience-) related attributes. However, instrumental traits have become more prevalent in feminine cultures (Kachel et al., 2016). Our results align more with Kachel et al.'s (2016) findings, in that efficiency-related attributes have a stronger effect on customer loyalty in feminine cultures.

On an exploratory basis, we examined three-way interactions. It appears that over time, efficiency-related website attributes gain in importance in cultures with high uncertainty avoidance. Whereas general retailing literature stresses that customers become more experience-oriented when shopping (Grewal and Roggeveen 2020), this effect may be weaker among shoppers who are uncertainty avoidant. Even if a website performs well on experience-related attributes over a sustained time, it has little influence on people with high levels of uncertainty avoidance. They still value tangible informational cues, and so efficiency-related attributes continue to have strong influence on customer loyalty, and the effects grow over time. Why this persistent might be so is unclear; we postulate that online retailing continues to be associated with various risks and ambiguity, and so people high in uncertainty avoidance continue to focus on efficiency-related attributes to mitigate such risks.

It is also worth discussing some of the nonsignificant effects, subject to the caveat that some tests may be underpowered. That is, we find nonsignificant effects that signal generalizability across utilitarian and hedonic products, mass and niche markets, high and low prices, and customers high or low in uncertainty avoidance. Some of these results are surprising. For example, experience- and efficiency-related website attributes are equally important for contexts straddling utilitarian versus hedonic benefits, a finding that deviates from research that commonly associates hedonic brands with perceptions of experience and utilitarian brands with perceptions of efficiency (Peter & Ponzi, 2018). Experience- and efficiency-related attributes also are equally important across high- and low uncertainty avoidance cultures, a finding that deviates from research suggesting that people high in uncertainty avoidance are more influenced by tangible, informational cues, such as efficiency-related attributes. In both these cases, some additional, unexplored factor might help reveal contingent effects; our exploratory three-way interaction suggests that the contingent effects across cultures that are high versus low in uncertainty avoidance emerge only over time (and not in all data). We return to this point in our discussion of further research.

Mechanisms underlying the effects of experience- and efficiency-related website attributes. Generally, trust, perceived value, and satisfaction mediate the impact of website attributes on loyalty. Two key points emerge here. First, for efficiency-related website attributes, trust best explains the impact on customer loyalty. This finding is consistent with Harris and Good's (2004) assertion that the role of trust is critical. Second, the mediators (combined) explain less than one-quarter of the effects of experience-related website attributes on customer loyalty; thus, some yet-to-be-explored mediating mechanisms might also affect customer loyalty, as we discuss subsequently.

Contributions

The findings of this study contribute to retailing literature and practice, as we summarize in Table 5.

Table 5
Contributions and research agenda.

Contribution	
Finding	***Implication***
Both experience- and efficiency-related website attributes affect customer loyalty perceptions.	In an ideal world, retailers should enhance both efficiency- and experience-related website attributes.
The impact of experience-related website attributes on customer loyalty become stronger over time.	Given limited resources, if retailers need to make trade-offs, focus on experience-related attributes.
Various factors moderate the impact of experience- versus efficiency-related website attributes on loyalty: ■ short- vs. long-term orientation ■ self-restrained vs. self-indulgent orientations ■ less vs. more masculine orientations ■ goods vs. services	The choice between enhancing experience- versus efficiency-related website attributes should be contingent on both the context and the culture of the target customers.
The impact of efficiency-related website attributes on customer loyalty is via trust, satisfaction, and perceived value, in that order.	For retailers, this diagnostic can reveal why and when efficiency-related website attributes may affect customer loyalty.
Rather than examine the effect of specific website attributes (e.g., navigation), we classify attributes into experience- or efficiency-related attributes, then examine the impact on customer loyalty.	We provide a framework for examining the effects of yet-to-be-introduced website attributes on customer loyalty. This point is especially relevant today, as smart technologies are increasingly applied to retailing websites.
Research Agenda	
Theme	***Elaboration***
Examine what drives the time effects in this study.	"Time" can be confounded by various factors, such as customer comfort with online shopping or website technology improvements over time. Research might disentangle these effects.
Examine the relative impact of factors not considered here, including AI applications, voice-based online shopping, augmented reality, and virtual reality.	This article provides a roadmap for predicting how new, yet-to-be-examined website attributes may affect customer loyalty, which is critical as new, smart technologies increasingly appear in retailing websites.
Beyond customer loyalty, examine other important outcome variables, such as customer acquisition or engagement.	The impact of website attributes may differ with the stage of the customer journey, so it is important to examine different outcome variables.
Examine how exactly experience-related website attributes affect customer loyalty.	The effects of experience-related website attributes are not well understood. Currently examined mediators explain less than 25% of effects of experience-related attributes on customer loyalty.
Extend the efficiency versus experience orientation to offline retailing.	This paper focuses on online retailing and online outcomes only. Do the insights extend to offline and/or multichannel retailing and affect outcomes across channels?

Experience- and efficiency-related website attributes. Our study empirically validates the importance of experience-related website attributes and their links to downstream variables like customer loyalty (Grewal, Levy, & Kumar, 2009). Ideally, because customers evaluate both experience- and efficiency-related website attributes, which affects their loyalty, managers should strive to improve perceptions of both categories. For example, on its Nike React website, Nike improved both interactivity and navigation (Chou, 2019), thereby enhancing experience- and efficiency-related website attributes, respectively. By classifying website attributes as experience-related or efficiency-related attributes, we establish two benefits. First, this classification provides a parsimonious approach to integrate empirical findings in prior studies and determine more precisely how efficiency- and experience-related website attributes affect downstream variables and with what strength. Second, if researchers want to determine the effects of new attributes that may become of interest in the future, such as those linked to yet-to-be-deployed smart technologies, they can use the proposed framework. By classifying a website attribute as experience- or efficiency-related, researchers can project and predict its downstream effects. This predictive capability distinguishes our effort from other studies that focus on existing attributes, which is critical because smart technologies (e.g., generative AI chatbots, new forms of augmented reality) will play increasingly prominent roles in online retailing (e.g., Guha et al., 2021), and many new website attributes will need to be examined in the future. For managers, we establish a framework for examining the effects of yet-to-be-introduced website attributes, as well as previously unexamined moderators. As we have noted, smart technology is becoming nearly ubiquitous on retail websites. If a firm uses artificial intelligence (AI) to develop customized offers for website visitors for example, to the extent that this attribute relates to efficiency, the retailer can leverage the insights we provide to predict its effects on customer loyalty, contingent on whether the retailer sells, for example, services or goods.

Moderators. The impact of experience-related website attributes on customer loyalty became stronger over time. Given limited resources, if retailers need to make trade-offs, they should focus on experience-related attributes. Various additional context factors and culture factors influence whether experience- or efficiency-related website attributes have a stronger impact on customer loyalty. Specifically, in our data, experience-related website attributes were more impactful for services (vs. products) and in cultures with a long-term (vs. short-term) orientation, high (vs. low) self-indulgence, and high (vs. low) masculinity. These moderating results provide guidance for when the seven specific attributes we examined have stronger impacts on customer loyalty, and these nuanced insights can be useful to academics and managers alike. This also allows to predict the context-specific impact of any yet-to-be-examined experience-related or efficiency-related website attribute on customer loyalty.

Mediators. By examining the pathways by which website attributes affect customer loyalty, we specify that the impact of efficiency-related website attributes on customer loyalty is primarily through trust, as well as satisfaction and perceived value. This insight provides a clear roadmap for identifying further moderators. In addition, for retailers, it provides a diagnostic for why and when efficiency-related website attributes may exert stronger or weaker impacts on customer loyalty. In contrast, the mechanisms by which experience-related websites affect customer loyalty remain somewhat unclear; trust, satisfaction, and perceived value (combined) account for less than 25% of the impact of experience-related attributes.

Limitations and agenda for further research

All our analyses are necessary retrospective, looking back to the past; online retailing is rapidly evolving. Our results therefore provide relevant insights for today, but tests conducted in the future could lead to different insights. Although we note and discuss some nonsignificant moderating effects, we remain cautious; the moderators were not manipulated but rather were coded from extant studies, which feature substantial variation in the number of effect sizes they examine. Continued research should strive to validate these first insights (or, if appropriate, correct them). We note that our exploratory three-way interaction suggests that contingent effects across cultures high versus low in uncertainty avoidance emerge only over time, so researchers might reexamine the moderation analyses we present, to include additional factors and thereby establish if three-way interactions can reveal different or more nuanced insights.

Further research could go in multiple other directions too, as we outline in Table 5. First, researchers might examine what drives the time effects in this study. What we measure as “time” could be confounded by various factors, such as customer comfort with online shopping over time or website technology improvements. Further research should disentangle these effects. Second, researchers might attempt to identify the impact of factors that we did not consider, such as AI applications, voice-based online shopping, augmented reality, and virtual reality. Using AI could enhance experience-related website attributes (Davenport et al., 2020) or increase efficiency-related website attributes, to the benefit of customer loyalty. If AI-enabled chatbots engage customers in various stages in the customer journey (Guha et al., 2021), customers' experience- or efficiency-related website attribute perceptions also might be contingent on the stage of the customer journey. Third, we focus on customer loyalty as an outcome; we exclude other important downstream outcomes, including those at other stages of the customer journey, such as customer acquisition or engagement. The pattern of results we present thus could vary, across outcomes and stages of the customer journey. Fourth, it is unclear how exactly experience-related website attributes influence customer loyalty. Continued research might examine the specific pathways of this impact; such research efforts would offer benefits by not only suggesting new mediators and moderators but also helping us understand more precisely how experience-related website attributes affect customers and their shopping experience. Fifth, we focus on online retailing and specifically examine how experience- and efficiency-related website attributes affect customer loyalty. Might these insights extend to offline retailing, including retail stores but also restaurants and hotels, as well as multichannel re-

tailing? Perhaps offline attributes, like store or restaurant locations and ambience, can be classified as experience- versus efficiency-related attributes, which also might affect customer loyalty. Such a research extension could expand the scope and contribution of our online considerations.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.jretai.2024.03.002.

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