

**Illuminating the E-Commerce Marketing Mix: Framework Development,
Marketing Tool Effects on Online Patronage, and Impact of Brand Equity**

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Benjamin Dominique Klink

from

Germany

Approved on the application of

Prof. Dr. Thomas Rudolph

and

Prof. Dr. Heiner Evanschitzky

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«*Good company in a journey makes the way to seem the shorter*»

Izaak Walton

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Non est ad astra mollis e terris via – Seneca.

August 2022, Benjamin D. Klink

Abstract

E-Commerce has disrupted retailing and continues to capture market shares worldwide. At the same time, marketing tools have multiplied due to rapid advances in marketing technology. These developments have profound implications for managing the marketing-mix in an e-commerce context, posing substantial challenges to marketing executives. The scientific literature on marketing tools and their effectiveness in e-commerce is unfortunately highly fragmented and therefore limited in its ability to provide sound guidance concerning an integrated e-commerce marketing mix.

This dissertation therefore aims to illuminate the e-commerce marketing mix. Towards this end, it, first, systematically reviews the literature on online patronage, confirming distinct fragmentation and conceptual confusion. It collates the research on patronage in e-commerce and develops an integrative conceptualization to aid future research. Second, it comprehensively identifies and intersubjectively categorizes currently available marketing tools in e-commerce. On that basis, it conceptualizes an e-commerce mix taxonomy comprising 62 archetypical marketing tools in ten dimensions. The e-commerce mix framework may aid, debias, and guide managerial decision-making and spark and inform scholarly debate. It then, third, meta-analytically assesses e-commerce mix effects on online patronage, synthesizing the empirical evidence of over 17'000'000 observations extracted from 602 individual studies. Thereby enhancing our understanding of firm-controlled levers' impact on online patronage. The results provide valuable evidence on the comparative effectiveness of marketing tools, making findings particularly relevant for implementation decisions and benchmarking purposes in practice. Last, it uncovers, describes, and explains the competitive advantage and strategic relevance of online retailer brand equity. The qualitative study reveals a strong link between online retailer brand equity and market share. Findings highlight the importance of a long-term perspective in online retailing and complement the results of the meta-analysis.

Zusammenfassung

Der elektronische Handel hat die Detailhandelsbranche disputiert und erobert weiterhin weltweit Marktanteile. Gleichzeitig haben sich die Möglichkeiten im Marketing dank rapider Fortschritte in der Marketingtechnologie vervielfacht. Diese Entwicklungen haben tiefgreifende Auswirkungen auf das Management des Marketing-Mix im E-Commerce-Kontext und stellen Marketingverantwortliche vor grosse Herausforderungen. Problematischer Weise ist jedoch die wissenschaftliche Literatur zu Marketingaktivitäten und -kanälen und deren Wirksamkeit im E-Commerce stark fragmentiert und daher nur begrenzt in der Lage, fundiert Implikationen für einen integrierten E-Commerce-Marketing-Mix zu geben.

Diese Dissertation hat daher zum Ziel, den E-Commerce-Marketing-Mix umfassend zu beleuchten. Zu diesem Zweck wird zunächst ein systematischer Überblick über die Literatur zum Online-Einkaufsverhalten gegeben, wodurch deren ausgeprägte Fragmentierung und verbreitete konzeptionelle Unklarheit bestätigt wird. Sie fasst in Beziehung stehende Forschungsergebnisse zusammen und entwickelt eine integrative Konzeptualisierung, um künftige Forschung zu unterstützen. Weiterhin werden in dieser Dissertation für Onlinehändler zur Verfügung stehende Marketingaktivitäten und -kanäle umfassend identifiziert, und mittels eines intersubjektiven Ansatzes kategorisiert. Auf dieser Grundlage wird eine E-Commerce-Mix-Taxonomie konzipiert, die 62 archetypische Marketingaktivitäten und -kanäle in zehn Dimensionen umfasst. Das Rahmenmodell verspricht Manager in deren Entscheidungsfindung unterstützen sowie den Einfluss kognitiver Verzerrungen verringern. Anschliessend untersucht eine Meta-Analyse den Einfluss des E-Commerce-Mix auf das Online-Einkaufsverhalten, indem sie die empirische Evidenz von über 17'000'000 Beobachtungen aus 602 Einzelstudien zusammenführt. Die Ergebnisse liefern wertvolle Anhaltspunkte für die Wirksamkeit von Marketinginstrumenten im Vergleich zueinander, was sie in der Praxis für Entscheidungen bezüglich deren Einführung und zu Benchmarking-Zwecken besonders relevant macht. Schliesslich werden der Wettbewerbsvorteil und die strategische Bedeutung einer starken Online-Händler-Marke aufgedeckt. Die qualitative Studie beschreibt und erklärt detailliert den starken Zusammenhang zwischen Markenstärke und Marktanteil im Online-Handel. Die Ergebnisse unterstreichen die Bedeutung einer langfristigen Perspektive im Online-Handel und ergänzen die Ergebnisse der Meta-Analyse.

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Abbreviations

ATL	Above-the-Line Marketing
AIDA	Attention, Interest, Desire, Action
cf.	<i>conferature</i> [compare]
CL	Cost Leverage
CMO	Chief Marketing Officer
CPC	Cost-Per-Click
D2C	Direct-to-Consumer
DV	Dependent Variable
e.g.	<i>exempli gratia</i> [for example]
E-Commerce	Electronic Commerce
et al.	<i>et alii</i> [and others]
i.e.	<i>id est</i> [that is]
IPA	Institute of Practitioners in Advertising
IV	Independent Variable
KPI	Key Performance Indicator
MCL	Marketing Cost Leverage
MTROI	Marketing Tool Return-on-Invest
OSF	Open Science Framework
PLS-SEM	Partial Least Squares Structural Equation Modeling
RACE	Reach-Act-Convert-Engage
ROAS	Return on Advertising Spent
ROI	Return on Investment
SEA	Search Engine Advertising
SEO	Search Engine Optimization
SME	Small and Medium-Sized Enterprises
TIU	Theories-in-Use
W-O-M, WOM	Word of Mouth

A. DISSERTATION OVERVIEW

1. Introduction

Today’s marketers can draw on an unprecedented wealth of marketing levers to drive firm performance. These new marketing opportunities have emerged at neck-breaking pace, thanks to the disruptive force of technological innovation. At the same time, the internet has fundamentally transformed the way consumers shop, dramatically changing the retailing landscape during the last 30 years. These days, e-commerce accounts for a substantial and growing share of total global retail sales (Cramer-Flood, 2020), and e-commerce businesses rank amongst the world’s most valuable companies (Forbes, 2019).

Marketing is a key success factor in e-commerce, as this dissertation will demonstrate in various ways. However, the sheer pace of change has left many e-commerce marketers struggling to keep up with the changing market environment, and many pressing questions have been left unanswered by the scientific community. Against this background, this dissertation comprehensively studies the e-commerce marketing mix, aiming to generate illuminating answers to research and practice.

To provide some background and context to the research presented in the subsequent four essays, the remainder of this introductory chapter briefly discusses the following questions¹:

- Why should e-commerce firms engage in marketing?
- What are key strategic aims in e-commerce marketing?
- What pervasive challenges hamper e-commerce marketing?
- How can e-tailers (online retailers) achieve marketing success?

The four essays in this dissertation subsequently provide in-depth answers to each of these questions, and particularly to the last one.

But first some definitions to avoid confusion and to ensure a common language. Most firms use many different forms of marketing to reach their aims. The entirety of these different ways of doing marketing a firm uses, and how those are combined, is called *marketing mix*. Marketing Professor James Culliton coined this term in the 1940s by describing marketers as “mixers of ingredients” (Borden, 1964). Firms communicate and interact with consumers through *channels* and engage in various *marketing activities* to reach their goals. The term *marketing tool* is used to refer to different marketing

¹ Please note that this inductor chapter is not intended as a comprehensive treatment of these questions.

activities and communication channels, both at once. Marketers often talk about *marketing instruments*, but it is often unclear what they exactly mean by it. The term is closely related to the prominent *4 P* of marketing (McCarthy, 1960). In its context, each *P* represents a *marketing instrument* subsuming similar *marketing tools*. A *marketing instrument* is therefore a category of similar or closely related *marketing tools*. Table A-1 summarizes the formal definitions of these important and reoccurring concepts in this dissertation.

Table A-1: Definitions

Construct	Definition	Based on
Marketing Mix	The marketing mix is the combination of marketing instruments and tools that the firm uses to pursue its marketing objectives in the target market, such as a desired level of sales.	Kotler and Keller (2016) Common Language Marketing Dictionary (2020)
Marketing Instrument	The marketing instruments are a category or set of congeneric tactical marketing tools that the firm uses to implement its marketing strategy.	Claessens (2016)
Marketing Tool	The marketing instruments consist of the tactical marketing tools used to produce the response the firm pursues in the target market.	Claessens (2016)
Channel	Customer contact points, or a medium through which the firm and the customer interact.	Verhoef, Kannan, and Inman (2015)
Touchpoint	Points of human, product, service, communication, spatial, and electronic interaction collectively constituting the interface between an enterprise and its customers over the course of customers' experience cycles.	Dhebar (2013)

The remainder of this introductory chapter first briefly outlines the importance of marketing for e-commerce firms. It then identifies and describes two critical customer-centric aims of e-commerce marketing, before presenting four pervasive challenges the dynamic and highly competitive e-commerce environment poses to marketing executives. Finally, it summarizes how the four essays in this dissertation provide answers to practically important issues in e-commerce marketing, and how they contribute to the progress of e-commerce marketing research.

2. A Very Short Introduction to the Importance of Marketing in E-Commerce

«If you can't explain it simply, you don't understand it well enough»

Albert Einstein

Why should an e-commerce firm engage in marketing at all? A seemingly innocent question, but one that will almost certainly receive many different answers, depending on who's being asked. Prominent marketing authorities will answer that firms should engage in marketing to identify unmet needs and meeting these needs through efficient exchange processes (Kotler & Keller, 2016; Meffert, Burmann, Kirchgeorg, & Eisenbeiß, 2018). This generic definition of marketing is an important reminder that firms should know and stay in touch with their target group's needs and wants. Yet, it doesn't provide a satisfying answer to the question whether and why marketing is of special importance in e-commerce.

To understand why marketing is indeed crucial in e-commerce, it is helpful to consider the path-to-purchase in online retailing. All well-known related concepts, be it the customer journey (Lemon & Verhoef, 2016), the sales funnel (Wiesel, Pauwels, & Arts, 2010), AIDA (the hierarchy of effects; Barry & Howard, 1990), or simply the path-to-purchase (Kannan, Reinartz, & Verhoef, 2016), share a very basic premise: Consumers must be aware of a firm, brand, or product, before they can buy (from) it. Some may now feel quick to respond with an example of a company that “doesn't do marketing.” It is certainly possible to achieve awareness via less conventional or non-firm-controlled routes. After all, one can also learn about a firm, product, or brand through, for example, friends or family, by reading about it in the news, or by simply *encountering* it.

However, in e-commerce, *all* encounters are caused by marketing in some shape or form. The virtual nature of the internet prevents encountering an online shop without having had contact with its marketing first. Some of these encounters might happen because someone searched for a product online. Search engine optimization (SEO) ensured that the online shop was present on the first page of native results, and search engine advertising (SEA) displayed an ad in the shopping carousel. Others might encounter an online shop because a friend recommended it, or someone tweeted about it. But, again, at some point, someone had to become aware of it first. And precisely for this reason, *every* online retailer must engage in marketing. Perhaps not always, and

maybe not in a typical way, but to sell anything online, people first need to know that the online shop exists. Awareness is therefore a *necessary* condition and the primary prerequisite of online patronage². And, consequently, marketing is crucially important in e-commerce, and perhaps even more so than in most other industries. To put it simply: No marketing, no online business.

3. Strategic Aims in E-Commerce Marketing

Gaining consumer awareness is undoubtedly *necessary* for success in e-commerce. Yet, it is not *sufficient*. Mere knowledge of a vendor's existence will seldom convince shoppers to patronize an online shop. To attract and retain online shoppers, online retailers need to formulate a marketing strategy to ensure meeting their customer-centered aims. In their marketing strategy, e-tailers need to first identify *what to do* and then *how to do it* (Morgan, Whitler, Feng, & Chari, 2019). In other words, in a first step, they need to formulate their marketing strategy before implementing it in the second step.

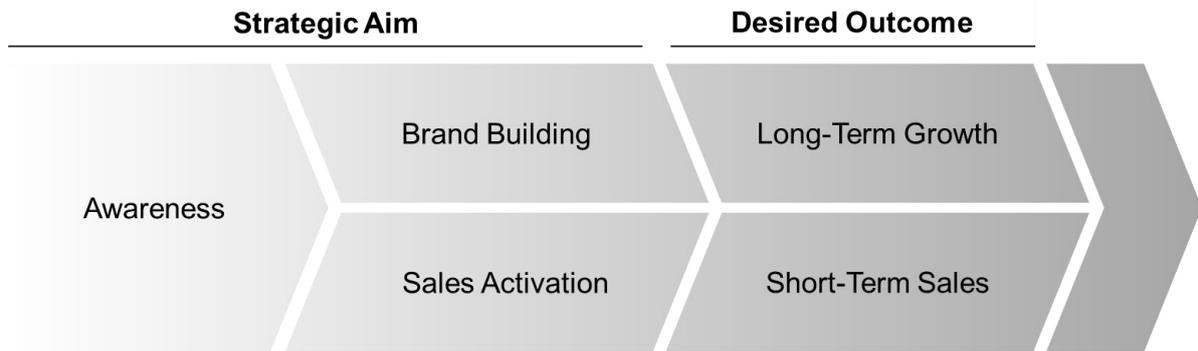
Results of a series of six exploratory interviews with e-commerce Chief Marketing Officers (CMO), help understand the primary customer-centric aims of e-commerce firms (*what to do*). The interviews reveal that e-commerce marketing executives pursue two fundamental aims: Generating revenues through sales activation and ensuring long-term growth by building a strong brand. As previously elaborated, awareness has been found a prerequisite for sales activation and brand building. Interestingly, CMO interviews and anecdotal evidence (Vizard, 2019) suggest that e-commerce firms are primarily focused on sales activation in their marketing, and generally consider brand building secondary. This is consistent with physical retailing, where retailers have been traditionally less prone of using branding activities (Zentes, Morschett, & Schramm-Klein, 2017). Many firms in e-commerce have roots in bricks-and-mortar retailing and ventured into e-commerce, so that this mindset has been transferred to online retailing is hardly surprising.

Furthermore, interviews reveal misperceptions regarding the relationship between awareness and brand building among some e-commerce CMOs. Some interviewed CMOs appeared to equate brand marketing with generating awareness. Their marketing

² Online patronage refers to consumers online shopping behavior, especially in shopping situations in which shoppers are considering several online shops. It is defined as a consumer's positive affect, conation, and behavior towards an online retailer or -shop. For a detailed discussion, please refer to Essay 1, which introduces and explains this concept in more detail.

strategy concentrates on aims and outcomes depicted in the lower part of Figure A-1. Hence, their marketing is dominated by performance marketing activities to generate immediate revenues.

Figure A-1: Strategic Customer-Centered Aims in E-Commerce Marketing



Based on CMO interviews (n=6), Field (2019)

Others disagree. Informant D noted that a strong online retailer brand constitutes a key differentiator and an invaluable asset in e-commerce. In their experience, a strong e-tailer brand counteracts the negative effects of the elevated market transparency and the virtual absence of switching cost the internet affords customers. For this reason, Informant D maintained, long-term growth in e-commerce is primarily achieved through differentiating branding activities. This notion is supported by marketing effectiveness consultants (Binet & Field, 2017; Field, 2019). Based on field evidence from in-depth analyses of 497 cases, they advise balancing long-term brand building and short-term activation to achieve greater overall marketing effectiveness. However, further evidence is needed to corroborate this anecdotal evidence to ascertain which position is more appropriate.

4. Grand Challenges in E-Commerce Marketing

«Efficiency is doing things right; effectiveness is doing the right things»

Peter Drucker (2018)

Having explored why e-commerce firms must engage in marketing, and what strategic aims online retailers pursue in their marketing strategy, let us now briefly turn to pervasive challenges in e-commerce marketing. These challenges hamper online retailers' ability to achieve marketing success, and, in consequence, to operate successfully in the market. The following outlines four common challenges negatively impacting marketing strategy formulation and marketing strategy implementation in e-commerce. These four challenges emerge from the exploratory interviews, practitioner resources (Field, 2019), and marketing literature (e.g., Morgan et al., 2019; Marketing Science Institute, 2020). While not clear-cut, the first and second challenge greatly impact *understanding what to do*, while challenges three and four affect *knowing how to do it*.

Challenge 1: Thriving in a Disruptive & Highly Competitive Market Environment

The internet and e-commerce have disrupted retailing. Search engines and price comparison websites have enabled almost complete market transparency. The elimination of spatial restrictions stemming from store location or shelf space significantly reduced consumers' switching cost and put millions of products at the tip of their fingers. Access to boundless viable shopping alternatives, the extreme assortment depth and breadth, and near-perfect price transparency offered by the internet have been exerting immense pressure on traditional retailers. At the same time, new technologies have been changing consumption behaviors and transformed formerly physical goods in virtual goods. Today's consumers, for instance, subscribe to music and movie streaming platforms, rather than buying CDs, DVDs, or Blu-rays in music and video stores.

These disruptions have been jeopardizing and threatening the survival of numerous bricks-and-mortar retailers. Recent examples include well-known department store chains such as John Lewis in the United Kingdom or Galeria Kaufhof in Germany. Many retailers unable to adapt went out of business. Prominent examples include Toys "R" Us and the countless independent retail stores that have vanished from the high street, a development some have called "retail apocalypse" (Moore, 2018; Mende & Noble, 2019). Many other traditional retailers successfully adapted to changing shopping and consumption habits by closing stores, changing business models, and venturing in e-

commerce by implementing online shops. Those that have adapted by heavily investing in e-commerce platforms gradually evolved into omnichannel retailers.

However, competition in e-commerce is notoriously fierce, squeezing margins substantially. The internet reduced market entry barriers, and technological and financial hurdles to implement online-shops steadily decrease. Technology providers such as Shopify allow the rapid and economic implementation of an online shop, and digital marketplaces even eliminate the need for a self-operated online shop entirely. In combination with the web's price transparency, this entices consumers to demote some online retailers to mere "logistical intermediates". Consumers are quick to churn from these vendors, as they perceive them as interchangeable. In consequence, countless market participants aggressively compete for consumers, whose expectations have amplified tremendously. It is therefore hardly surprising that pure-play online retailers have started moving away from a purely digital paradigm. Prominent examples include Amazon, with its acquisition of Wholefoods and its Amazon Go and Amazon Four Star store concepts, and Zalando, now operating several outlet stores in Germany.

Disruptions and competitive pressure often severely limit marketing budgets of affected firms in e-commerce. For this reason, their firm performance greatly depends on their capability of formulating a cost-effective marketing mix. At the same time, retailers and e-tailers expansion into omnichannel retailing has profound implications with regard to their marketing mix, requiring new marketing capabilities (Moorman & Day, 2016).

Challenge 2: Minimizing the Marketing Capabilities Gap

The exponential multiplication of touchpoints, rapidly increasing complexity of possibilities, ever more sophisticated data analytics and marketing technologies, and the migration to omnichannel retailing induced uncertainty about the appropriate course of action in e-commerce marketing organizations (Day, 2011; Moorman, 2022). To thrive in this highly dynamic environment, marketing executives need to ensure that their organization and the people working in it are capable to quickly adapt and integrate new opportunities as they emerge – they need to minimize the marketing capabilities gap. Marketing capabilities are "the complex bundles of firm-level skills and knowledge that carry out marketing tasks and firm adaptation to marketplace changes." (Day, 2011). They are therefore essential for successfully adapting to an ever-changing environment, having an appropriate sense of what needs to be done, and for acting on this understanding. E-Commerce firms that succeed in narrowing the marketing capabilities

gap can greatly benefit from a sustained competitive advantage (Moorman & Day, 2016).

Reality, though, often looks quite different unfortunately (Moorman, 2022). In the exploratory interviews as well as in large scale surveys, e-commerce CMOs voice their dissatisfaction with their internal capability to adapt and integrate new technologies, but also with the skill set and know-how of incoming young marketing talent. In practice, marketing executives therefore frequently seek the external expertise provided by, e.g., marketing agencies or technology providers (Moorman, 2022). Reliance on external know-how, however, undermines the inimitable competitive advantage marketing capabilities can provide, since competition can equally draw on it.³

Online retailers are therefore well-advised to build internal marketing excellence (Moorman & Day, 2016). To achieve this, marketing executives should prioritize people development and training. Likewise, poaching knowledgeable experts from marketing agencies, marketing technology providers, or the competition, can help to fast-track the build-up of marketing capabilities. Finally, attracting high-potential talent and developing their know-how and skill set, helps to ensure the continuity and sustainability of building marketing capabilities.

As Day (2011) points out, it is probably impossible to fully close the marketing capabilities gap, especially over the longer term. A certain gap will always remain, due to the rapid pace of change on the internet, the emancipation of consumers, increasing their expectations, and new media and technologies continuing to emerge. Yet, useful marketing frameworks, practically relevant insights, and sound evidence can at least help ameliorate the marketing capabilities gap. By charting the status-quo, they help to bring internal marketing capabilities up-to-speed and allow marketing executives and their marketing organizations to have their gaze on the horizon.

Challenge 3: Configuring an Effective Marketing Mix

Knowing in which marketing tools an e-commerce firm should invest to drive online revenue or to build its brand is not as simple as it may appear at first. The lack of overview, the multitude of alternatives, and internal pressure to generate revenue and growth, greatly complicate e-commerce mix configuration.

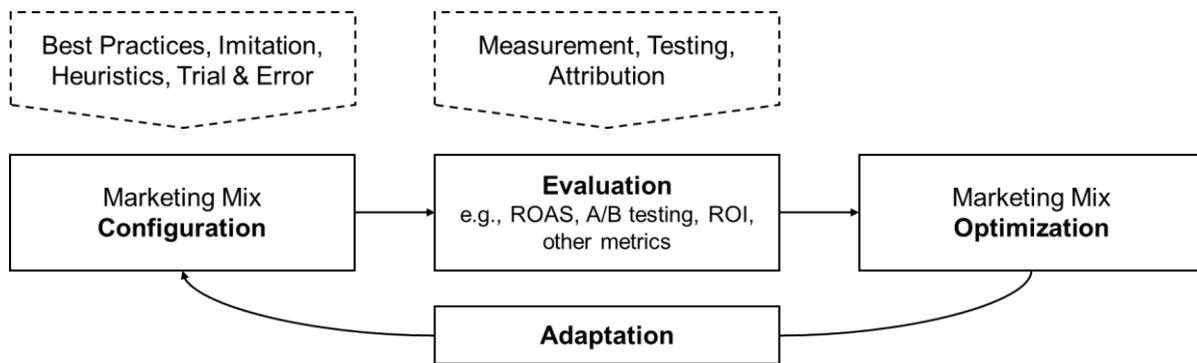
Configuring an effective marketing mix equally necessitates *knowing what to do and how to do it*. For formulating an effective marketing strategy, having a

³ On a side note, iconic strategists Sun Tzu (2021) and Niccolò Machiavelli (1992) already warned against relying on "mercenaries", as they are only ever truly loyal to their compensation.

comprehensive overview of viable strategic options is crucial. In the past – and today – frameworks are frequently used to simplify and facilitate the marketing strategy formulation process, as exploratory interviews showed. For example, all informants cited some sort of sales-funnel model when explaining their marketing process. Yet, a corresponding fit-for-purpose framework of marketing options is yet to be developed, despite persisting demand.

A specific marketing mix configuration is hence typically the result of a combination of insight from the previous use of marketing tools and the decision to implement so far unused marketing tools. For this, sound guidance pre-implementation and reliable information on the individual and interactive effectiveness of used marketing tools is critically important. However, the necessary evidence for comparing the effectiveness of used and unused marketing tools is currently unavailable. And even comparing the effectiveness of currently used marketing tools is a sophisticated problem, not only because only a few (digital) marketing tools readily provides data and metrics necessary to assess effectiveness. Adidas, for example, admittedly overinvested in digital advertising and performance marketing at the expense of brand-building traditional marketing instruments (Vizard, 2019). In a similar vein, marketing effectiveness consultants (Webb, 2018) came to the following conclusion: *“Many organizations struggle with marketing effectiveness. Indeed, many are still trying to figure out which adverts are working; and how marketing in a broader sense, beyond advertising, is helping generate business growth. [...] In speaking to more than 40 brand representatives responsible for more than £7bn advertising spend in the UK, we found that no single organization was wholly satisfied with the way that marketing effectiveness was assessed.”* Assessing marketing effectiveness and using it for marketing configuration decisions is further hampered by doubts about the trustworthiness of provided data and metrics, as exploratory interviews showed. Marketing effectiveness metrics are usually provided by the advertising platform. These platforms and providers have a vested interest in demonstrating the effectiveness of their offered marketing opportunities, as it directly affects their business performance. Therefore, it appears reasonable to be skeptical about the accuracy of marketing tool performance data provided by ad brokers.

Figure A-2: Process of Marketing Mix Configuration and Adaptation



Based on CMO interviews (n=6)

In the absence of sound guidance, some (but not all) e-commerce firms have resorted to employ iterative trial-and-error approaches when devising their e-commerce marketing mix strategy. As depicted in Figure A-2, their process of e-commerce mix formation and adaptation resembles a cybernetic feedback loop. An e-commerce mix typically emerges through a combination of marketing agency recommendations, imitation of best practices, and heuristics, such as recognition or satisficing (Simon, 1956; Goldstein & Gigerenzer, 2002). Subsequently, these decisions are iteratively scrutinized and adjusted. For optimization, firms use experimentation or marketing metrics (Mintz & Currim, 2013).

However, this approach only allows for optimizing the marketing mix already in place – it helps in fine-tuning its *efficiency*. What other combinations of marketing tools could result in a substantially more effective marketing mix hence remains unknown. Putting it in a mathematical metaphor: it might allow finding *local optima*, alas not *global optima*. Another caveat to this approach is the risk of being susceptible to cognitive biases such as the sunk cost fallacy (Parayre, 1995). These biases might entice marketing executives to hold on to suboptimal configurations knowingly or subconsciously. Further, even if erroneous decisions are reverted, considerable financial resources may already have been wasted. Building competencies and hiring marketing specialists requires substantial investment and means significant long-term commitment. In result, the approach described by our upper-echelon informants entails the substantial risk of profound negative long-term consequences on a firm's bottom line (Whitler, Lee, Krause, & Morgan, 2020).

Challenge 4: Getting Marketing Efficiency Right

Marketing efficiency has substantial impact on an e-commerce firm's performance and profitability. The marketing cost leverage illustrates and helps to understand the impact of marketing efficiency on firm performance. The principle of cost leverage is well-established and has been used to show why sourcing has substantial leverage on firm profitability (Koppelman, 2013). The cost leverage metric determines how much additional revenue is needed to equal the profit impact of a one unit decrease in cost (e.g., a 1% cost reduction). Adapting it to the marketing context demonstrates the profit impact of increasing marketing efficiency.

A quick and easy way of calculating the cost leverage is taking the multiplicative inverse of the EBIT margin (i.e., dividing 1 by it):

$$\mathbf{Cost\ Leverage\ (CL) = \frac{1}{EBIT\ margin}} \quad (1)$$

To find the marketing cost leverage, we then simply adjust the cost leverage for the marketing cost margin (marketing budget in % of revenue), giving us the following equation:

$$\mathbf{Marketing\ Cost\ Leverage = CL \times Marketing\ Cost\ Margin\ (\% \ of\ revenue)} \quad (2)$$

Let us consider Zalando for illustration. For its financial year 2021, Zalando reported an EBIT margin of 4.5% and its marketing spent amounted to 9% of revenue (Zalando, 2022). Applying (2), we find Zalando had a marketing cost leverage of ≈ 2 . Meaning, a 1'000 € reduction in marketing budget has the same impact on operating profit than a 2'000 € increase in revenue. Hence, to have overall positive profit impact, marketing return-on-invest (ROI) needs to exceed a value of 2 (€). Otherwise, an online retailer could achieve higher profitability by reducing marketing spent. Importantly, it also provides us with an approximate measure of marketing efficiency. Comparing the marketing cost leverages of similar online retailers helps identifying which e-commerce firm's marketing strategy generates revenue most efficiently (disregarding carry-over effects).

Knowing this, we now also have a useful and quick approximate threshold value to assess marketing tool efficiency:

$$\text{Marketing Tool ROI (MTROI)} > \text{Marketing Cost Leverage (MCL)}, \quad (3)$$

where MTROI can be measured by the return on advertising spent (ROAS) or any equivalent metric, that associates the effectiveness and cost of a given marketing tool. If MTROI is lower than MCL, then an online retailer sacrifices profitability with the continued use of the respective marketing tool. Whether its continued use makes sense, however, needs to be evaluated case-by-case, including other, non-financial, considerations.

Please note, moreover, that this very simplistic metric has certain properties that warrant caution when applying it for marketing decision-making. First, the metric assumes linearity of marketing effectiveness. In simple terms, it assumes that the effectiveness of a marketing tools does not change with increasing or decreasing investment. However, this is highly unlikely, as marketing effectiveness is probable to decrease with, e.g., advertising intensity. Secondly, it depends on precise and fair marketing effectiveness measurement. Yet, as will be demonstrated later in this dissertation, this is unlikely to be the case in practice. Exclusively relying on this metric will therefore inevitably lead to the neglect of marketing tools with masked effectiveness (e.g., because of long-term effects) or that provide strategically relevant benefits not immediately related to generating revenue. Last, it neglects the interplay of marketing tools. Applying this metric to compare marketing tools side-by-side, disregards that the simultaneous use of certain marketing tools might be more effective than employing them individually.

Based on the same reasoning, the intuitive strategy of allocating budgets according to the effectiveness of marketing tools is flawed, despite unprecedented possibilities of tracking online behavior of consumers. Appropriate attribution of a marketing tool's contribution to marketing success is highly difficult and remains an unresolved issue across marketing instruments (Wiesel et al., 2010; Corley, Jourdan, & Ingram, 2013; Kireyev, Pauwels, & Gupta, 2016; Berman, 2018; Danaher & van Heerde, 2018). Marketing executives and scholars therefore unsurprisingly consider the right allocation of resources (i.e., budget and people) across channels a key challenge in marketing strategy (Corley et al., 2013; Morgan et al., 2019). In line, the Marketing Science Institute nominated marketing budget allocation between digital and traditional media a research priority (Marketing Science Institute, 2020).

5. Research Strategy

This dissertation considers these pervasive challenges, aiming to contribute to the scientific literature while at the same time providing relevant insights for e-commerce marketing executives. It aims to inform e-commerce marketing strategy formulation by providing evidence to help *understand what to do*. To this end, a digestible overview of strategic options and robust evidence on their effectiveness promise useful insight for e-commerce marketing executives. It specifically considers the pre-implementation stage, at which there is typically little to none reliable data available. For strategic marketing mix planning, credible *ex ante* information is paramount. However, no previous study has comprehensively considered the effects of e-commerce mix stimuli on online patronage. Likewise, research and guidance on the role of brand strength in e-commerce and how to use e-commerce mix instruments for brand building is scant. Is a strong corporate brand particularly beneficial (and even more important than in bricks-and-mortar retailing), like Informant D suggested?

Studies taking a short-term and long-term perspective promise to offer valuable insights for frugally implementing an effective e-commerce marketing-mix and optimizing its efficiency. Advancing a holistic understanding of the marketing mix in the e-commerce context therefore holds the potential of significantly increasing the impact of marketing activities, avoiding substantial cost due to suboptimal allocation of marketing budgets, and may assist CMOs with demonstrating and enhancing marketing impact on firm profit (Wiesel et al., 2010).

This dissertation has consequently four primary aims: (a) Deriving a conceptualization of online patronage, (b) developing a robust and useful e-commerce mix framework, (b) investigating influence of marketing mix stimuli on online patronage, and (c) ascertaining and exploring the strategic relevance and role of the online retailer brand. Table A-2 provides an overview of the four essays in this dissertation geared towards these aims.

Table A-2: Dissertation Overview and Methodology

	ESSAY I	ESSAY II	ESSAY III	ESSAY IV
Title	Online Patronage: Primer, Systematic Literature Review, and Conceptualization	A Taxonomy of Marketing Instruments in E-Commerce	E-Commerce Marketing Mix Effects on Online Patronage: A Meta-Analysis	Uncovering the Strategic Relevance, Managerial Perceptions, and Practices of Corporate Branding in E-Commerce
Co-Author(s)	Thomas Rudolph	Thomas Rudolph	Thomas Rudolph	--
Research Question	How should online patronage be conceptualized?	I: What marketing tools are currently available to e-commerce companies? II: What are robust categories – marketing instruments – of congeneric types of marketing tools?	What are the effects of e-commerce mix instruments on online patronage?	What is the strategic relevance of corporate brands in e-commerce? How do e-tailer CMOs perceive brand marketing? How do e-tailers perform brand marketing?
Methods	Systematic Literature Review, Conceptual	Desk Research, Literature Review, Open Card Sorting	Meta-Analysis	Literature Review, Grounded Theory, Theories-in-Use
Data	28 Conceptualizations	62 Academic and Practitioner Experts	1'951 individual bivariate effect sizes based on N=17'204'960 observations	21 Qualitative In-Depth Interviews with E-Commerce CMOs
Publication Status	Published	Accepted & Presented Journal Submission in Preparation	Accepted for Presentation Journal Submission in Preparation	Submitted to Journal of Marketing

Each of the four essays in this dissertation is briefly summarized in the following.

Summary of Essay 1

Title: Online Patronage: Primer, Systematic Literature Review, and Conceptualization

Research Problem: Understanding how consumers choose online stores to shop at – online patronage – is vitally important to online retailers. Yet, despite many different metrics in e-commerce practice tracking consumer behavior, research on patronage in online retailing is scarce. Equally problematic, the little evidence available is scattered, due to inconsistent naming and conceptual confusion regarding online patronage. These issues hamper providing relevant and comprehensive insight regarding consumers' e-tailer choices and shopping-related factors to e-commerce practice.

Research Goal: This research sought to (1) clarify the online patronage concept, (2) to take stock of the current online patronage literature, and (3) to develop an integrative conceptualization of online patronage. By systematically reviewing the literature on online patronage, it set out to assess current knowns and unknowns, and to identify how previous research named, conceptualized, and measured online patronage.

Methodology: This paper draws on methodological triangulation, namely, an analysis of emblematic patronage definitions, a narrative literature review, and an interdisciplinary systematic literature review. On this basis, it identified and conceptually synthesized online patronage conceptualizations in the literature.

Results: Results confirm that online patronage literature is indeed stifled by inconsistent naming, theoretical confusion, and diverging forms of measurement. Conceptually, online patronage was found to encompass affective, conative (intentional), and behavioral dimensions. Yet, previous research was found to be strongly skewed toward the conative dimension.

Contribution: This research provides an introduction to patronage in the e-commerce context, a comprehensive overview on the current state of online patronage research, an integrative conceptual online patronage framework, and suggestions pertaining to the successful application of this highly relevant concept in future research projects.

Summary of Essay 2

Title: A Taxonomy of Marketing Instruments in E-Commerce

Research Problem: The rapid technological progress in marketing technology led to the emergence of numerous new marketing tools. To exploit the potential of new marketing opportunities and to successfully integrate them into an existing e-commerce mix, a comprehensive overview is critical. However, the dynamic of development makes keeping-up challenging. In the past, marketing mix framework have proven tremendously relevant and useful for providing overview, guiding managerial decision-making, and informing scientific research. Unfortunately, neither a comprehensive compendium of marketing tools nor an e-commerce mix framework currently exists.

Research Goal: In response to this void, this research firstly aimed to provide a comprehensive, up-to-date overview of the marketing tools available to e-commerce businesses. Secondly, it set out to develop a replicable and unbiased taxonomy of e-commerce marketing tools. Thirdly, it sought to assess and understand differences in understanding and reasoning between practitioners and scholars by analyzing their classification strategies.

Methodology: In the identification stage, this research compiled available marketing tools by conducting web searches, a review of practitioner sources, screening references of review articles and identified relevant articles, and manually screening 63,000 journal articles published in leading research outlets in the marketing, retailing and e-commerce domain. This research then intersubjectivity classified marketing tools via open card sorting of 59 marketing researchers and practitioners, and replicated results using hierarchical cluster analyzes.

Results: In total, this research identified 62 archetypical marketing tools, and derived 10 e-commerce mix dimensions (instruments) based on expert judgment. Furthermore, it identified some differences in the understanding of marketing tools and their purpose.

Contribution: The results can provide a valuable resource for the development of marketing strategies by reducing the cognitive load during decision-making, potentially preventing suboptimal consequences due to biases and the use of heuristics. In addition, the e-commerce mix taxonomy offers an evidence-based framework for future research and demonstrates the viability of the open card sort method for conceptual development.

Summary of Essay 3

Title: E-Commerce Marketing Mix Effects on Online Patronage: A Meta-Analysis

Research Problem: Leaps in marketing technology multiplied the range and variety of marketing tools available to e-tailers. However, the comparative effectiveness of e-commerce marketing activities unfortunately remains elusive – despite a wealth of research on the matter.

Research Goal: To address this issue, this essay aimed to investigate the effectiveness of firm-controlled marketing levers on online patronage. This study, hence, first intended to assess and assemble the existing empirical evidence, before, second, synthesizing it meta-analytically. The meta-analysis was designed to study the comparative effectiveness of 62 marketing tools, clustered in 10 e-commerce mix dimensions, on online patronage.

Methodology: In line with gold-standard recommendations, relevant datasets were identified in a comprehensive systematic literature review. Effect sizes were extracted based on predefined eligibility criteria, converted to Pearson's r (if necessary), and corrected for reliability and logarithmic transformation. Then, marketing tool effectiveness was assessed in a bivariate meta-analysis, using a random effects model specification. The potential influence of intervening conceptual and methodological factors was subsequently assessed via mixed-effects meta-regression. The meta-analytical review synthesized 658 distinct datasets from 602 data sources, yielding 1'951 individual bivariate effect sizes based on 17'204'960 observations.

Results: This research finds overall online patronage is most effectively influenced by marketing tools related to the e-commerce mix dimensions advertising, website, pricing, and community. These effects are in some cases bound by context influences, and are overall heterogeneous across studies. Moreover, certain relationships are direly neglected, hence further research is urgently needed to complete the picture.

Contribution: Findings offer important insights on the comparative effectiveness of marketing tools, highly relevant for marketing strategy formulation and marketing budget allocation in e-commerce marketing practice. This research contributes to the literature by providing a comprehensive review of the current status-quo of online patronage research, a quantitative synthesis of the cumulative evidence, and the identification of subject areas urgently calling for further research.

Summary of Essay 4

Title: Uncovering the Strategic Relevance, Managerial Perceptions, and Practices of Corporate Branding in E-Commerce

Research Problem: Prior research and practice share a heavy focus on the short-term success of marketing activities in e-commerce. In stark contrast to this, exploratory interviews as well as industry reports suggest that building a strong corporate brand is essential for sustainable long-term growth in e-commerce. Yet, empirical evidence is scant, and the conceptual mechanisms of the brand equity-marketing share link in online retailing continue being unknown.

Research Goal: This essay set out to respond to this void by qualitatively exploring the role and relevance of e-tailer brand equity. It intended to shed light on decision-makers perceptions of the relevance of e-tailer brand equity, the utilized brand marketing practices, and the aims online retailers pursue in their brand marketing.

Methodology: This research investigated the corporate brand of e-commerce firms in a qualitative interpretative approach. This study drew on 21 semi-structured in-depth interviews with e-commerce marketing executives, collectively representing more than 2.4 bn USD in e-commerce revenue. It employed grounded theory and theories-in-use approaches to analyze the data, extract findings, and develop its propositions.

Results: This research establishes, explores, and explains the causal relationship between online retailer brand equity and e-commerce market share. It further uncovers a widely shared understanding of the great importance of having a strong e-tailer branding, but dissent regarding the pursued aims, the question what brand marketing entails, and how it should be done. Additionally, it uncovers and explains an intention-behavior gap regarding corporate branding in e-commerce.

Contribution: This research contributes by identifying the competitive advantage afforded by corporate brand equity, explaining the extraordinarily high market concentration in online retailing. Based on a rich treatment of corporate branding practices in e-commerce, it identifies benefits and risks of a strong corporate brand, and develops a framework of e-tailer brand marketing along the customer journey. Finally, it contributes through the discovery of new phenomena: the utilitarian shopping motivation trap, the vicious cycle of brand marketing abandonment, and performative branding, a previously unknown brand marketing approach.

6. Synthesis

Table A-3 presents a heavily abridged summary of how each of the four essays in this dissertation have contributed to a better understanding of the e-commerce mix.

Table A-3: Abridged Theoretical Contributions and Managerial Implications

	Essay 1	Essay 2	Essay 3	Essay 4
Research Area	Research on Online Patronage	E-Commerce Marketing Mix	Marketing Tool Effects on Online Patronage	Strategic Relevance of Online Retailer Brand Equity
Theoretical Contribution	Takes stock of the current state of knowledge and provides an integrative conceptualization of online patronage.	Identifies available marketing tools in e-commerce and develops a robust e-commerce mix framework.	Synthesizes the currently available evidence on marketing tool effectiveness in e-commerce and identifies knowledge gaps.	Uncovers and explores the competitive advantage of strong online retailer brands.
Managerial Implications	Helps overcoming transactional short-termism in favor of a relationship marketing mindset.	Offers a bias-reducing overview of marketing tools and a useful framework for marketing strategy formulation.	Provides trustworthy and robust evidence on marketing tools effectiveness in generating online patronage.	Highlights why a strong online retailer brand can turn the tide and illustrates how e-tailers engage branding.
Bottom-line Effect	Enhanced e-commerce marketing efficacy contributing to superior long-term firm performance and profitability			

In Essay 1, this dissertation charts the current research on online patronage, finding that its dispersed state mismatches its importance in e-commerce practice, diminishing the practical impact of online patronage research. Essay 1 rectifies this scattered condition by systematically reviewing and bringing together the current literature. It further contributes by synthesizing the different lenses and scales in individual studies in an integrative online patronage conceptualization. In addition, Essay 1 can help e-commerce marketing managers and executives to overcome the

widespread transactional short-termism, i.e., a performance marketing mindset, by outlining how and why consumers choose a certain online shop of their evoked set.

Essay 2 develops an evidence-based e-commerce mix framework, offering a useful heuristic for marketing strategy development and managerial decision-making. It identifies 62 marketing tools available to online retailers, and categorizes them in 10 e-commerce mix dimensions, based on classifications of 59 marketing scholars and e-commerce marketing experts. The taxonomy offers a comprehensive and intersubjectively derived overview of e-commerce marketing mix dimensions and tools. It provides a natural starting point and conceptual framework for future research, and helps in alleviating potential negative effects of availability and recognition biases in e-commerce practice (Tversky & Kahneman, 1974; Goldstein & Gigerenzer, 2002).

Essay 3 subsequently comprehensively assesses the comparative effectiveness of the integrated e-commerce mix. It meta-analytically synthesizes the empirical evidence of 602 empirical studies, comprising $N=17'204'960$ observations, regarding marketing tool effects on online patronage. The findings allow comparing marketing tool effectiveness beyond the scope of previous research and across field boundaries. They further indicate whether marketing tool effects are affected by intervening influences such demography, product context, or country. At the same time, results pinpoint current knowledge gaps, presenting avenues for further research. Most importantly, they may improve the quality of e-commerce marketing mix decision-making.

Finally, Essay 4 complements the first three essays with a long-term perspective, by investigating the strategic relevance and managerial perceptions of the online retailer brand, and exploring corporate branding practices in e-commerce. It demonstrates how a strong e-tailer brand is linked to its market share and explores the causal mechanisms underlying this relationship. It furthermore offers a holistic treatment of brand equity consequences, including an examination of the dark side of e-tailer brand strength. Moreover, it offers insight on online retailer branding practices as well as its impact along the customer journey.

7. Conclusion

The overarching aim of this dissertation is to illuminate the e-commerce mix. In pursuing this aim, it addresses several important questions, issues, and concerns of practitioners and marketing academics (Marketing Science Institute, 2020). For doing so, this dissertation combines multiple conceptual, quantitative, and qualitative research methodologies, thereby adhering to the mixed-methods paradigm.

Each of the four essays in this dissertation individually contributed to conceptual clarity and theoretical progress in online patronage research. Through synthesis of the available empirical evidence and qualitative investigation, they jointly uncover and address knowledge gaps, blind spots, and inconsistencies in previous research. Furthermore, they provide valuable insights regarding the effects of marketing stimuli in the e-commerce context, and foster generalizability of previous findings. Based on their findings, the essays outline research opportunities that hopefully spark, inspire, and guide urgently needed further research.

E-Commerce marketing executives will find in this dissertation crucial tools for devising and managing their marketing strategy. It extends an open invitation to overcome short-sighted revenue fixation, demonstrating how this can contribute to superior firm performance. The intersubjectively developed e-commerce mix framework provides much-appreciated orientation and hopefully inspires marketing executives to consider so far neglected marketing instruments and tools that offer previously untapped potential. The findings further provide dependable heuristics and neutral evidence on marketing effectiveness, responding to managerial skepticism. Moreover, this dissertation offers first evidence on the significant importance of e-tailer brand equity for growth, substantially extending the previously scarce guidance available to practitioners. To conclude, the comprehensive investigation of short- and long-term marketing mix effects in the e-commerce context in this dissertation can provide valuable insights for reducing cost inefficiencies, substantially increasing overall marketing efficacy, as well as marketing's overall contribution to firm performance.

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Appendices

Appendix A: List of Interviewees

Table A-4: List of Interviewees

	Position	Firm Description	Firm Category
Informant A	Head of Marketing	National consumer electronics e-commerce vendor, business unit of a larger retailing corporation	Omnichannel
Informant B	Chief Marketing Officer	E-ticketing retailer, country subsidiary of a large European corporation.	Pure-Online
Informant C	Head of Marketing	National market-leading online grocery retailer, business unit of a larger retailing corporation	Omnichannel
Informant D	Chief Marketing Officer	Market-leading national consumer electronics and general merchandise e-commerce vendor, business unit of a larger retailing corporation	Omnichannel
Informant E	Chief Executive Officer & Chief Marketing Officer	National sustainable fashion E-Commerce SME	Pure-Online
Informant F	Head of Marketing	National general merchandise e-commerce vendor.	Pure-Online

Appendix B: Interview Guide

Vielen Dank, dass Sie sich die Zeit für dieses kurze Interview genommen haben. Wie Sie wissen, führe ich dieses Interview als Teil meiner Dissertation an der Universität St.Gallen durch. Sinn und Zweck ist mehr über die Herangehensweise von Topmanagern an das Marketing, insbesondere im Zusammenhang mit dem E-Commerce, zu erfahren. Selbstverständlich werden dieses Interview und Ihre Antworten nur in anonymisierter Form veröffentlicht. Sie können Ihre Zustimmung jederzeit widerrufen.

Dieses Interview wird in einem halbstrukturierten Format geführt, d.h. ich habe eine Reihe von Fragen vorbereitet, die ich stellen möchte, aber wir können jederzeit ins Detail gehen, wenn wir es für hilfreich halten. Normalerweise sollte das Interviews nicht länger als 10 Minuten Zeit beanspruchen. Bitte zögern Sie nicht, sich nach dem Interview jederzeit per E-Mail mit mir in Verbindung zu setzen.

Die Aufzeichnung des Interviews ist eine große Hilfe, da ich mich besser auf unsere Diskussion konzentrieren kann. Bitte lassen Sie mich vor Beginn des Interviews wissen, wenn Sie einer Tonaufnahme widersprechen.

1. Wie haben Sie / Ihr Unternehmen über die einzusetzenden Marketinginstrumente entschieden?
2. Glauben Sie, dass Marketing-Mix-Modelle für Ihre strategische Arbeit nützlich sind?
3. Welches Marketinginstrument ist für Sie das wichtigste?
4. Herzlichen Dank! Gibt es noch etwas, das Sie hinzufügen möchten oder etwas Wichtiges, das wir noch nicht angesprochen haben?

Vielen Dank für Ihre Teilnahme! Ihre Auskünfte sind entscheidend für unser Verständnis eines modernen Marketing-Mix und eine enorme Hilfe in meinem Dissertationsprojekt.

Appendix C: Expert Interviews

Towards the aim of validating the previously posed research questions with practitioners, I chose to conduct semi-structured interviews. My aims were threefold: (a) to cross-validate the research questions with praxis, (b) to assess the relevancy of the research questions to practitioners, (c) gain preliminary insight into the strategic decision-making processes regarding e-commerce marketing mix.

For participant selection I employed theoretical sampling – therefore, my sample size was not fixed *ex ante*. Rather, it emerged during the field phase and ended when theoretical saturation ensued.

Initially, interviewees were selected and contacted from nationally leading e-commerce firms. Since it was my aim to investigate the strategic marketing decision making, I only contacted the highest-ranking marketing executive of each company (Whitler, Lee, Krause, & Morgan, 2020). Over the course of the interview phase, however, and in line with theoretical sampling procedure, I decided to also contact eligible SMEs informants. This decision was taken upon the realization that many informants had preexisting marketing structures to begin with, and thus the perspective of marketing mix formation (versus -adaptation) was underdeveloped.

The interviews were conducted by the author between 30 April and 29 May 2020. Each informant participated voluntarily without reimbursement and was informed of the possibility to withdraw participation at any point. The anonymity of informants was guaranteed. Furthermore, I sought expressed consent for audio-recording the interviews.

In total, I conducted six ($N=6$) interviews with C-level marketing executives of Swiss E-Commerce firms. The interview language was German, the native tongue of the informants. All interviews were held via video-call, recorded, and later transcribed. In addition, the interviewer took short notes during the interview to help with follow-up questions for clarification and respondent validation without interrupting interview flow. On average, each interview had a duration of approx. 17 minutes ($M_{\text{duration}}=17:27$ min, $SD_{\text{duration}}=5:52$ min). In total, we collected 1 hour and 44 minutes of records and 9'587 words of transcribed interviews.

We employed a semi-structured interview approach since it allowed for comparable results while recognizing the exploratory nature of the research, asking each informant three guiding questions:

1. *How did you / your company decide on the marketing instruments to use?*

2. *Do you think marketing mix frameworks are useful for your strategic work?*
3. *Which marketing instrument would you consider to be the most important for your company?*

To avoid participant framing and hypothesis guessing, the interviewer avoided mentioning the term “marketing mix” during all contact with the participant prior to the interview and during the interview until question 2.

Interviews were transcribed by the author word-by-word, within a few days after the respective interviews were conducted⁴. Where it appeared appropriate and informative, I included notes on interviewee reactions in the transcripts, such as laughter or long thinking pauses. After transcription, I analyzed the interviews using thematic coding, following the Gioia method (Gioia, Corley, & Hamilton, 2013). Based on the first level codes, I then identified second order themes. Second order themes were collated in third order dimensions. In this process, I also used interviewer notes from the respective interviews to help with identification of emerging themes.

⁴ Interview transcripts are available from the author upon request.

Appendix D: Results of the Expert Interviews

In the following, we report and discuss early results of our interviews. Table A-5 provides an overview of emerging themes, dimensions, and respective exemplary quotes identified during the exploratory expert interviews.

Table A-5: Interview Results: Dimensions, Themes and Exemplary Quotes

Dimensions	Themes	Example Quotes
Marketing mix decision-making in practice	KPI / metric driven optimization Experimentation (A/B tests) Heuristics and «rules of thumb» Trial & Error approach «Best practice» approaches	<i>„Also ich denk immer im ROAS, das ist der Return on Advert Spend. Ich denke an den Sales Funnel, mit Awareness, Consideration und Evaluation-Phase. Und für mich ist der ROAS alles entscheidend.“ (Informant E)</i>
	Implicit use of heuristics («sales funnel») Lack of understanding of interdependencies / attribution problem Heavy focus on advertising, narrow understanding of Marketing Educational purpose	<i>„Ich sag mein Bedürfnis ist es, nicht für mich persönlich, aber gerade für Neue die im Marketing arbeiten, eben, die kommen mit einer Theorie von der Uni oder von der Schule, merken "Oh, mit dieser Theorie kann ich gar nicht viel anfangen". (Informant A)</i>
Importance of individual instruments	No most important instrument Highly firm-specific (e.g. Newsletter, Branding)	<i>„Mich auf eines einzuschiessen jetzt ist ein bisschen schwierig, ganz ehrlich. Also, ich muss so sagen, für uns, was wir immer wieder merken ist eigentlich der schon fast abgeschriebene Newsletter, ist einfach immer noch extrem wichtig.“ (Informant B)</i>
Unresolved challenges	Attribution of individual instruments contribution to sales Effectiveness of instruments Trustworthiness of provided metrics	<i>„Zum wirklich messen zu können was bringt was. Das ist dermassen kompliziert und aufwändig. Zum genau den Effekt von einer einzelnen Massnahme isoliert betrachten zu können, das nahezudas ist eigentlich unmöglich. Also man kann sich mehr oder weniger nah daran rantasten und man bekommt mehr oder weniger gute Resultate.“ (Informant D)</i>

The interviews revealed marketing mix decisions to be driven by industry practice and as being highly experimental in nature. Via a trial-and-error approach and experimental A/B testing, new instruments and tools often are evaluated for their impact. Comparison is carried out using a range of metrics or KPI, such as ROAS or Marketing ROI. However, some informants uttered dissatisfaction with the quality and neutrality of the data on which basis these metrics are calculated. Further, when asked what drove their initial decision to use a new instrument or tool, many informants revealed to orientate themselves at best-practices, effectively imitating peer companies. Others reported that they practically never had reason to decide on the marketing mix configuration, since it had been already set up or predetermined by a parent company.

With regards to the relevancy of marketing models, such as the four P, it became evident that many informants implicitly used such models as heuristics and orientation in their decision making. For instance, Informant C effectively described the sales funnel when describing how they set up their marketing mix. Moreover, when directly asked whether they would agree that the 4 P and its relatives have lost all practical relevance, all asked informants disagreed. Informant A highlighted the relevance for education and teaching. They voiced resent over the fact that, in their view, today, students would learn outdated theories which fall short in practice. In result, these students must be sent to Google workshops to prepare them for their role in the marketing organization. Further, it became evident over the course of the interviews that some equated marketing with marketing communication, displaying a rather narrow understanding. Additionally, informants showed to take issue with the distinction between marketing instruments, tools, touchpoints, and channels.

The question which marketing instrument would be considered the most important for their company yielded the most diverging answers. While some named a specific “instrument”, which were mostly effectively channels, others reported that there would be no such thing. Generally, there was dissent regarding the most important instrument amongst those informants who named a specific “instrument”. Thus, the most important channel appears to be highly firm-specific. Perhaps this a result of the specific industry context, a promising question to investigate in future interviews.

Concerning unresolved challenges, many informants pointed towards the challenges in comparing the impact of marketing instruments, channels, and tools. First, some informants voiced doubts over the trustworthiness of the provided data by facilitators such as Facebook or Google. The interviewees mistrusted the data and metrics provided by facilitators since these have naturally a vested interest in appearing

highly effective to further attract marketing budgets. Comparability was reported to be further stifled by the availability of metrics. Whereas metrics and data are readily available in digital marketing, more traditional channels often fall short in providing similar evidence to evaluate marketing effectiveness. Second, attribution of each marketing instrument's impact on sales or alternative outcome variable was identified as a challenge. To illustrate, Informant D shared anecdotal evidence that even when their organization heavily cut budgets during the COVID-19 crisis, Google was still claiming responsibility for a large share of conversions. Third, due to the issues above, fair assessment of instrument effectiveness was reported a significant challenge. Difficulties to obtain comparable metrics across all instruments complicate and hinder fair assessment. Moreover, simple side-by-side comparisons of metrics disregard the interaction effects of instruments and provide little guidance on how to allocate marketing budgets.

B. ESSAY I

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Online Patronage: Primer, Systematic Literature Review, and Conceptualization

Co-Authors

Thomas Rudolph⁽¹⁾

Abstract

The ongoing global pandemic has led to a seismic shift of shopping behavior towards online channels. In this light, understanding consumer choice between online shop alternatives – online patronage - grew even more important. Problematically, due to inconsistent naming and conceptualization of online patronage in the literature, the body of evidence is scattered, confusing, and incommensurable. To address this issue, we use methodological triangulation to identify and synthesize online patronage conceptualizations from the literature. Namely, we employ an analysis of emblematic patronage definitions, a narrative literature review, and an interdisciplinary systematic literature review. On that basis, we offer a primer on patronage in the e-commerce context, argue conceptual distinctiveness from loyalty, propose an online patronage conceptualization, and briefly discuss research opportunities.

⁽¹⁾ Thomas Rudolph is Professor of Marketing and International Retail Management, Institute of Retail Management, University of St.Gallen, Switzerland (thomas.rudolph@unisg.ch).

1. Introduction

The COVID-19 pandemic has disrupted shopping behavior worldwide (Lowe, 2020; Morgan, 2020). E-Commerce surges, while bricks-and-mortar retailers are forced to temporarily close their doors in many countries. In reaction, many companies hastily introduced online shops to keep operations running (OECD, 2020). With that, the longstanding question of how consumers choose which online shop to patronize rapidly grew in importance.

In retailing, the concept of retail patronage is concerned with consumers' choice between alternative brick-and-mortar outlets and determinants of this choice (Stephenson, 1969; Arnold, Oum, & Tigert, 1983; Gripsrud & Horverak, 1986). The great number of scientific studies conducted, as well as the continued attention of retailing scholars over the last decades, are testimony to its high practical and theoretical relevance (Pan & Zinkhan, 2006; Blut, Teller, & Floh, 2018). Thus, unsurprisingly, the patronage concept has been readily applied to the online retailing context with the emergence of e-commerce since the mid-1990s (Jarvenpaa & Todd, 1996).

In the e-commerce context, however, we observe extensive heterogeneity with regard to naming, theoretical understanding, and measuring patronage. This impairs our capability to readily assess the current knowns and unknowns, and thus the ability to provide sound advice to e-commerce managers. This is arguably due to a dearth of conceptual efforts with regard to the patronage framework (Brown & Dant, 2009). The result is a highly fragmented body of evidence, hampering practical insight and theoretical progress. Therefore, a revisit of the patronage concept in the online context and taking stock of the literature on online patronage appear worthwhile and timely.

2. Research Question

Patronage arguably represents a distinct and valuable concept for marketing, retailing, and e-commerce research. In retailing, several seminal studies have made use of this concept to great merit, see e.g., Pan and Zinkhan (2006) or Blut et al. (2018). In the online context however, despite its proliferation, even a quick literature search reveals a distinct and problematic heterogeneity with regard to conceptualization, operationalization, and naming of the construct. The dissent on the construct's nature and scope, and resulting lack of conceptual clarity, diminishes its utility at present. In consequence, the body of evidence on online patronage is fragmented and characterized by a-theoretical application of (retail) patronage scales. To illustrate, authors such as

Kim, Fiore, and Lee (2007) and Chiang, Zhang, and Zhou (2006), use multiple naming alternatives throughout their papers when referring to online patronage, such as “patronage intention towards a retail Web site”, “patronage intention towards an online store”, “patronage intention towards the online retailer site”, or “patronage to the online retailer”. Others use patronage and loyalty notions interchangeably, c.f. Wang, Zhu, Tian, and Li (2019) or Osman (1993), showcasing the need for conceptual clarity. This makes assessing the collective evidence on online patronage challenging and impedes the potential of online patronage as a useful theoretical framework.

In response, this paper poses the research question (RQ): How can online patronage be conceptualized? In addressing this question, we hope to strengthen the rigor and relevance of online patronage research and help practitioners and researchers to assess and make sense of the accumulated knowledge. Our results may also support editors and reviewers when evaluating manuscripts on online patronage.

3. Methodology

To conceptualize online patronage, we use methodological triangulation. First, we lay the foundation for content- and face validity (Hardesty & Bearden, 2004) by discussing how patronage is commonly and naturally understood in the English language. We achieve this by examining emblematic definitions, as found in popular dictionaries. Then, we turn to academic literature, which we review narratively to trace the origins of the patronage concept, and to delineate the patronage framework from loyalty. Then, we consider the literature on online patronage in a systematic literature review. In doing so, we ensure inclusion of common operationalizations and thus minimize the risk of neglecting important aspects of the concept in this specific context. By impartially including interdisciplinary sources, we hope to achieve a robust conceptualization that transcends field boundaries and is somewhat universal applicable, so that it will stand the test of time.

4. Analysis of Emblematic Patronage Definitions

The Cambridge Dictionary (2021) defines patron as “a person or group that supports an activity or organization, especially by giving money.” Further, patronage is “the support given by a patron” as well as “the regular custom attracted by a shop, restaurant, etc.”, as defined by the Oxford Dictionary (2021). Integrating these definitions from common language use, the concept of patronage appears to incorporate

favorable actions of a patron directed towards a firm – such as buying at a shop, recommending it to others, or contributing positively, e.g. in the form of user reviews. Importantly, these exemplary definitions further point to the aspects of positive affect and allude to a relationship between patron and the patronized (firm).

5. Narrative Literature Review

Retail Patronage

Put plainly, retail patronage poses the question: “How do shoppers choose in which retail store to buy?” (Stephenson, 1969; Arnold et al., 1983). Hence, retail patronage literature is concerned with the consumer’s choosing of a store, shop, or retailer to buy from, their corresponding shopping and visiting pattern, and determinants and motives of this choice (Stephenson, 1969; Arnold et al., 1983; Baker, Parasuraman, Grewal, & Voss, 2002; Brown & Dant, 2009). Due to the proximity to a retailer’s bottom line, retail patronage is arguably an important outcome variable for firms in retailing (Ou, Abratt, & Dion, 2006).

Recently, scholars started to characterize retail patronage as a framework consisting of several facets. Frequently, these include customer satisfaction, patronage intentions, patronage behavior, and word-of-mouth (Pan & Zinkhan, 2006; Emrich & Verhoef, 2015; Blut et al., 2018). Yet, the scope of retail patronage is an ongoing debate (Davari, Iyer, & Rokonuzzaman, 2016).

Disentangling Patronage and Loyalty

The interchangeable use of the patronage and loyalty concepts by some authors (Osman, 1993; Wang et al., 2019) warrants attention to the issue of patronage’s relationship with related constructs. To foster the discriminant validity of the patronage concept, a brief delineation appears therefore necessary.

In our view, patronage as a concept is congeneric to the concept of customer loyalty. However, we argue the concept forms a distinct theoretical entity. Customer loyalty is the continued, strong, and complex relationship between a *specific* firm and a patron (Dick & Basu, 1994; Oliver, 1999; Davari et al., 2016). Patronage, on the other hand, represents a consumer’s buying behavior as well as their relative preference and affect towards a firm or shop in a *set of alternatives* (Baltas, Argouslidis, & Skarmas, 2010). Patronage moreover incorporates patronizing behaviors like recommendation to others, such as friends and family.

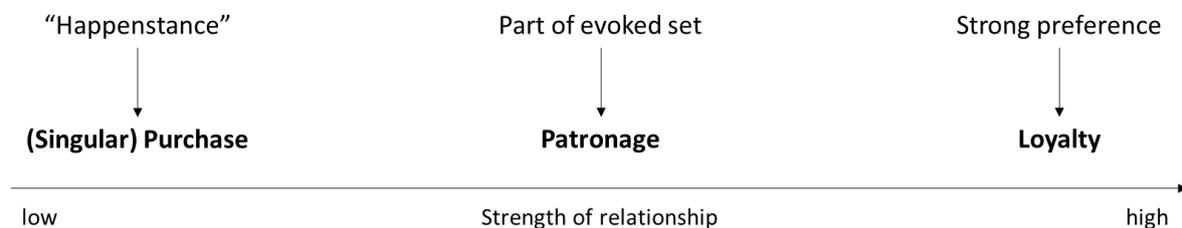
Table B-1: Delineation of Patronage and Loyalty

Construct	Definition
Patronage	“The concept of patronage in general, and in retailing in particular, is characterized by reciprocity between the partners in this relationship, whereby the retailer offers services to its patron, and, in return, the patron displays a positive attitude and behavior toward the retailer” (Blut et al., 2018)
Loyalty	“Customer loyalty is viewed as the strength of the relationship between an individual's relative attitude and repeat patronage.” (Dick & Basu, 1994)

Hence, whereas loyalty is concerned with the monogamous and continued relationship between one firm and a customer over time, patronage assumes a broader perspective. Consumers frequently patronize a set of retailers, shops, or stores (Baltas, Argouslidis, & Skarmeeas, 2010). Therefore, where a singular firm in retailing is considered, strong and sustained patronage towards one firm could be seen as a constitutive element of customer loyalty.

Alternatively, one may also differentiate both constructs in terms of the strength of relationship between customer and firm, since patronage considers a set of firms while loyalty focuses on a specific firm. From this perspective, loyalty indicates a truly strong relationship, while patronage resides somewhere in the middle of that spectrum. A patron may regularly consider alternatives from their evoked set, while a truly loyal customer would only do so as an exception.

Figure B-1: Patronage and related constructs by strength of relationship



6. Systematic Literature Review: Patronage in the E-Commerce Context

Online patronage applies the patronage concept to the e-commerce domain. To analyze how online patronage has been conceptualized and operationalized by different authors, we used a systematic literature search approach. We followed PRISMA group's gold standard recommendations for systematic literature reviews and meta-analyses where applicable (Liberati et al., 2009).

For the present systematic literature research, we relied on the principal search systems *ESBCO Host*, *ProQuest*, and *Web of Science*. We chose three online databases following the recommendations by Gusenbauer and Haddaway (2019), who analyzed a wide range of search systems and databases in terms of their suitability for systematic literature research. In addition, we used *lens.org* as an auxiliary resource. We used the search strings: "online retail patronage", "online patronage", "patronage AND online", and "patronage AND *-commerce". Where possible, we restricted the search to only include articles, working papers, or preprints. Further, we filtered results by subject: Business / Management (Web of Science), Consumer Behavior (Web of Science), Electronic Commerce (ProQuest, EBSCO Host), Online Shopping (EBSCO Host). Moreover, we only included results in English language in our qualitative analysis.

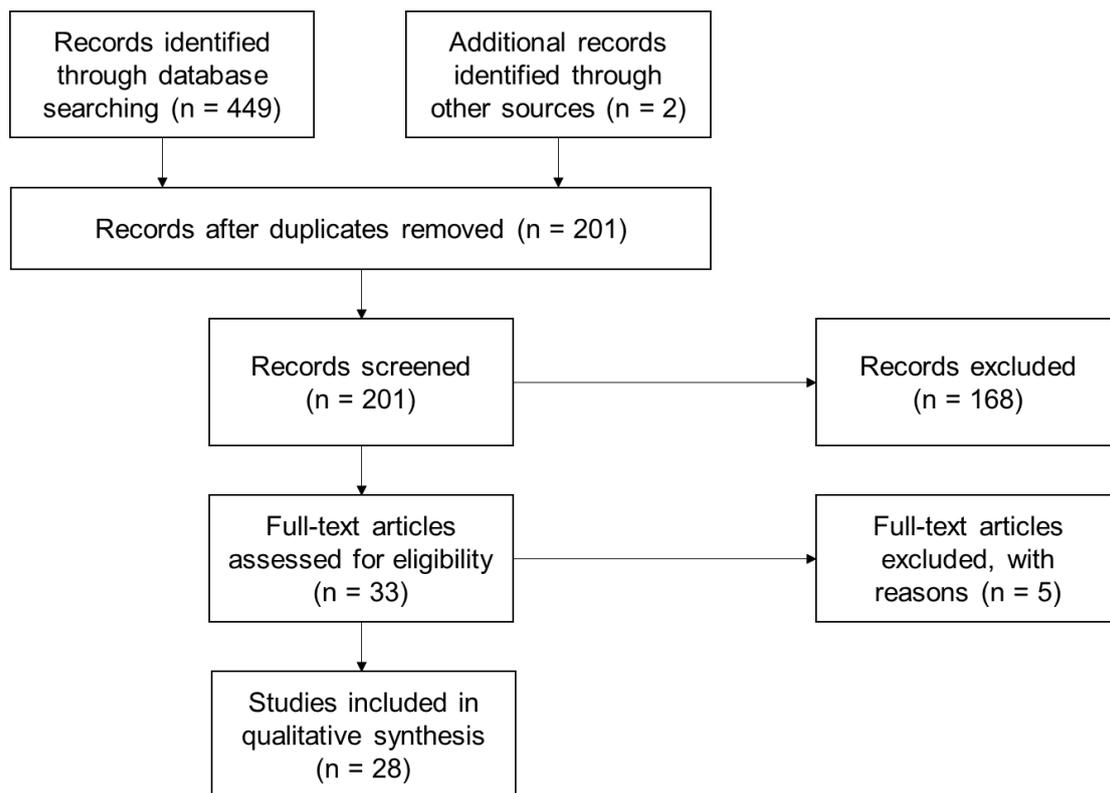
Table B-2: Search Strategy and Search Strings

Time frame	* – June 2020
Search strings	"online retail patronage" "online patronage" patronage AND online patronage AND *-commerce
Search fields	Title, Abstract, Keywords
Search systems	Principal: ESBCO Host, ProQuest, Web of Science Supplementary: lens.org

At this stage, we focused on systematically assessing how different authors across field boundaries treat online patronage conceptually. Hence, we included the term patronage in all our search strings, and added various terms geared towards the e-commerce context.

Our systematic literature search resulted in an initial set of 201 articles, after consolidation of our search results and the elimination of duplicates. We then screened the remaining 201 records by title, keywords and abstract to assess whether to include them in further analysis. At this stage, we eliminated 168 articles of which we found 133 to be outside the scope of our intended review, 18 to be concerned with retail patronage instead of online patronage, 5 to be non-journal records, and 3 non-English resources. Additionally, we excluded 8 records since we were unable to obtain full text records with reasonable effort. We were left with 33 records, for which we analyzed the full text for eligibility. In this stage, we excluded five (5) records that merely mentioned patronage in passing and did not offer any conceptualization or operationalization of online patronage.

Figure B-2: PRISMA Statement



7. Findings

Terminology

In line with previous observations, we find highly inconsistent terminology in the literature. Researchers dubbed the online patronage concept as diverse as “consumer patronage” (Kim et al., 2007), “online retail patronage” (Emrich & Verhoef, 2015), or “online patronage” (Ganesh, Reynolds, Luckett, & Pomirleanu, 2010). Notably, we find great variance in the exact wording, except from the term “patronage”. The most common notations take the form of: “patronage towards an e-tailer / online shopping site / online retailer / online store” (n=5), “web site / e- / online patronage” (n=7), or “patronage” (n=12) with in-text referral to the e-commerce context. To facilitate literature search, and for differentiation from retail patronage, we advocate use of the term *online patronage* in future studies.

Conceptualization

We find distinct incongruence regarding the conceptualization of online patronage. Most prior studies focused solely on patronage intentions (n=22; 78.6%), often adapting scales from retail patronage literature. Several authors employed a more holistic approach, considering patronage intentions and either behavior (n=9; 32.1%) or affect (n=5; 17.9%) simultaneously. It is noteworthy that no study operationalized online patronage encompassing all three identified dimensions.

Operationalization

Authors drew heavily on retail patronage literature, either by directly applying retail patronage scales, or indirectly, by following the precedent of earlier work. The retail patronage scale by Baker et al. (2002) was identified as the most influential (n=4). Affect was operationalized in terms of (store) preference, attitude, and satisfaction. Patronage intention was typically operationalized in terms of the intention or willingness to (re-)purchase, recommend, and to visit the online shop. Patronage behavior was measured using recommending, visiting, and purchasing behavior items, but also in terms of recency or frequency of purchase.

8. Discussion

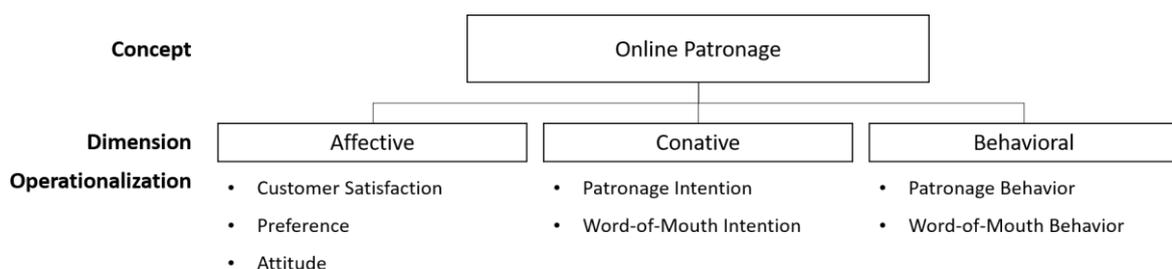
Currently, the literature on online patronage is afflicted by several significant issues. Since the concept is referred to by many different names, managers and researchers struggle finding relevant insights. This problem is further exacerbated by

the great diversity in conceptualization and operationalization between studies. This requires great effort to put together and assess the collective evidence to provide a comprehensive picture of the current knowledge.

Online patronage is a valuable concept that relates to the situation in which consumers chose which e-tailer to purchase from when several alternatives are in their evoked set. Arguably, this is much more commonplace than the loyalty scenario, where a customer would not consider shopping alternatives in normal circumstances. This might especially be the case in e-commerce, where switching costs are virtually non-existent.

Based on our results, we define online patronage as a consumer's positive affect, conation, and behavior towards an online retailer or -shop. Accordingly, our proposed online patronage framework comprises three main dimensions: affective, conative (intentional), and behavioral, as depicted in Figure B-3. Our conceptual framework is the first to consider the three dimensions of online patronage concurrently, as indicated by the results of our systematic literature review. The affective dimension pertains to the positive and favorable emotional response of a consumer towards an e-tailer, measured as customer satisfaction and preference. Further, this dimension incorporates the relationship and attitude components. The conative or intentional dimension, being the most prominent in prior studies, contains patronage- and word-of-mouth (WOM) intention. Last, the behavioral dimension comprises patronage- and WOM behavior. It is worth mentioning that WOM includes forms of electronic WOM (e-WOM) in the context of our conceptualization. The distinction between the conative and behavioral dimension accounts for empirical findings on the intention-behavior gap, frequently observed in the context of consumer behavior (Carrington, Neville, & Whitwell, 2014) and across fields (Sheeran & Webb, 2016).

Figure B-3: Conceptual Framework of Online Patronage



One might be tempted to assume that the three dimensions are hierarchical, such that the affective dimension represents a precursor to the conative dimension, which in turn is an antecedent to the behavioral dimension. However, as pointed out earlier, online patronage encompasses a relational component. Thus, it transcends such a static view in favor of a long-term view. Patronage behavior might influence the affective dimension through, for example, customer satisfaction, which in turn may have downstream consequences in the conative and behavioral dimensions at a later point in time. It would consequently appear more reasonable to view the dimensions being connected in a cybernetic feedback loop.

9. Managerial Implications

For e-commerce managers, our conceptualization provides a framework to better understand consumers' online store choice. Our framework may be of special relevance for retailers and e-tailers that require a deeper understanding on how consumers adopt online-shops to their evoked set. The current global pandemic has made this issue particularly important, especially to those firms that had to hastily shift a large proportion of their operations to online channels.

Performance measurement in e-commerce is often heavily focused on the use of metrics and key performance indicators. Such metrics commonly include website traffic, conversion rates, cost-per-click, or click-through-rates. They are successfully used to assess the effectiveness of marketing activities, e.g., a banner advertisement. Many e-commerce firms have therefore adopted these measures even as their principal measures for marketing success. However, such a way of performance evaluation only considers the short term. This can lead to unintended consequences, since the long-term is at risk to be neglected. A point in case is Adidas, who have recently acknowledged having over-invested in digital advertising and performance marketing at the expense of brand-building traditional marketing instruments (Vizard, 2019). The concept of online patronage represents a suitable counterpart that accentuates the longer term. In combination with ad-hoc metrics, managers in e-commerce firms are well-equipped to assess the performance of marketing campaigns, and their marketing effectiveness in general.

10. Conclusion

Online patronage is a valuable framework for understanding consumer behavior in e-commerce. Problematically, however, the systematic literature review confirmed that the comparability of research findings on online patronage is hampered by inconsistent language and inconsistent conceptualizations. In this paper, we suggest a conceptual framework based on a comprehensive review of the literature. We identify three dimensions of online patronage and present corresponding operationalizations. Future research may further explore the different theoretical lenses on patronage, investigate in greater depth the development of the patronage framework over time, consider the idiosyncratic differences of online patronage and retail patronage, or might advance online patronage scale development and validation. We hope our efforts spark an insightful debate on online patronage and contribute to conceptual clarity, hence strengthening clarity, transferability, and practical relevance of online patronage research in the future.

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Appendix A: Overview of Online Patronage Operationalizations in Previous Research

Table B-3: Overview of Online Patronage Operationalizations in Previous Research

Article	Affective Component	Conative Component	Behavioral Component
Bonnin (2020)		✓	
Brown, Pope, and Voges (2003)		✓	
Chang and Tseng (2013)		✓	
Chattaraman, Kwon, and Gilbert (2012)		✓	
Davari, Iyer, and Rokonuzzaman (2016)		✓	
Emrich and Verhoef (2015)		✓	✓
Forsythe and Shi (2003)			✓
Harris, Francesca Dall'Olmo, Riley, and Hand (2017)			✓
Hsin-Hui (2011)		✓	
Huang and Tsui (2016)			✓
Kang (2017)	✓	✓	
Kim, Fiore, and Lee (2007)		✓	
Kim, Song, and Lee (2019)	✓	✓	
Koo (2006)		✓	
Mai, Ketron, and Yang (2020)		✓	
Mathwicka, Malhotra, and Rigdon (2001)	✓	✓	
Melis, Campo, Breugelmans, and Lamey (2015)			✓
Michaud Trevinal and Stenger (2014)		✓	✓

Pradeep and Eric (2007)	✓		
Rezaei, Amin, and Ismail (2014)	✓	✓	
Rose, Lees, and Meuter (2001)			✓
Sina and Wu (2019)		✓	
Song and Kim (2012)		✓	
Vipin and Nadda (2020)		✓	✓
Wang (2010)		✓	✓
Wang, Baker, Wagner, and Wakefield (2007)		✓	
Wang, Minor, and Wei (2011)		✓	
Yun and Good (2007)		✓	
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C. ESSAY II

An earlier version of this essay was accepted as:

Rudolph, T, Klink, B. (presented). A Taxonomy of Marketing Instruments in E-Commerce. EMAC Academic Conference 2022, Budapest, Hungary.

A Taxonomy of Marketing Instruments in E-Commerce

Co-Authors

Thomas Rudolph⁽¹⁾

Abstract

The unprecedented diversity of marketing tools available in e-commerce increasingly poses fundamental challenges to marketing practitioners and researchers. New types of marketing tools have emerged at a rapid pace. Yet, due to the lack of overview, harnessing the potential of these new marketing opportunities is challenging. Similarly, marketing research is handicapped by the lack of an integrative conceptual framework. In response to this void, we develop an up-to-date taxonomy of marketing instruments in e-commerce. Based on a comprehensive compendium of marketing tools currently available to e-commerce businesses, we empirically and intersubjectively develop an integrative framework using the open card sort method. We identify 10 marketing instrument categories covering 62 marketing tools. Our results provide a valuable resource for marketing strategy development and an evidence-based framework for future research.

⁽¹⁾ Thomas Rudolph is Professor of Marketing and International Retail Management, Institute of Retail Management, University of St.Gallen, Switzerland (thomas.rudolph@unisg.ch).

1. Introduction

In today's hyperconnected world, marketing executives have an unprecedented wealth of marketing tools at their disposal (Swaminathan, Sorescu, Steenkamp, O'Guinn, & Schmitt, 2020). Marketing tools are the tactical means used to produce the response a firm pursues in the target market (Kalyanam & McIntyre, 2002; Claessens, 2016), and hence comprise marketing activities *and* channels. However, the sheer number of options and the ensuing complexity poses a fundamental challenge in the face of limited resources and time. In addition, the rapid pace of technological progress brought about numerous cutting-edge marketing opportunities. Keeping pace with these developments, and integrating fundamental new marketing technologies in an existing marketing mix, however, has been and continues to be challenging (Day, 2011).

Especially in the highly competitive e-commerce industry, an effective marketing mix is vitally important (Wiesel, Pauwels, & Arts, 2010). Online retailers are highly dependent on effective marketing activities to reach, attract and retain shoppers. To that end, marketing mix frameworks can greatly assist developing successful marketing strategies, as they outline the scope of e-commerce marketing and summarize available marketing levers. In so doing, they moreover aid and simplify marketing decision-making by decreasing the mental effort needed for recalling and holding in mind countless options (Kalyanam & McIntyre, 2002). Marketing mix taxonomies can hence help debiasing managerial decision-making and decrease negative effects of oversight. As such, they may help in alleviating adverse influences of mental availability (Tversky & Kahneman, 1974), status quo bias (Samuelson & Zeckhauser, 1988), or loss aversion (Kahneman, Knetsch, & Thaler, 1991).

Unfortunately, we find that neither a comprehensive and up-to-date overview of marketing tools nor a taxonomy of marketing instruments in e-commerce are currently available. This stands in stark contrast to the persisting demand for such a resource, indicated by countless results when searching for such a resource online. Yet, problematically, practitioner resources and online articles on marketing tools indifferently list various software solutions or blur marketing tools (and activities) and software solutions (see e.g. Chaffey, 2020; Digivate, 2021; Geri, 2022). They are hence neither comprehensive nor useful for marketing strategy work. The lack of an e-commerce marketing mix framework similarly hinders theoretical advancement. Marketing mix taxonomies are essential to conceptual progress since they summarize and integrate cumulative knowledge (MacInnis, 2011) and thereby enable theory assessment and enhancement (Yadav, 2010).

We address and ameliorate this conundrum by compiling a comprehensive compendium of marketing tools and developing a taxonomy of marketing instruments in e-commerce. We identify 62 archetypical marketing tools currently available to e-commerce businesses, and on that basis intersubjectively develop a taxonomy of marketing instruments using the open card sorting method. Our taxonomy comprises ten marketing mix dimensions and relates these to corresponding marketing tools.

2. Literature Review

Taxonomies of marketing instruments represent a central cornerstone of marketing theory. The seminal 4 P (McCarthy, 1960) and 7 P frameworks (Booms & Bitner, 1981) are taught to virtually every marketing student across the globe. Moreover, marketing mix conceptualizations routinely provide a valuable framework for research (Blut, Teller, & Floh, 2018; Jindal, Zhu, Chintagunta, & Dhar, 2020). And yet, their relevance to marketing praxis has evidently faded.

The Value of Marketing Mix Taxonomies and Prominent Conceptualizations

The 4 P have become almost synonymous to the marketing mix concept *per se*. Notwithstanding its unshaken prominence, the four P classification has been extensively criticized (see e.g. van Waterschoot & van den Bulte, 1992; or Grönroos, 1994), and researchers have proposed an abundance of new marketing mixes over the years (Dominici, 2009). Arguably, for each new marketing paradigm (or even fad) to emerge, at least one new marketing mix has been proposed. To give just two examples, Lauterborn (1990) conceptualized the 4 C to cater to the emerging customer centricity paradigm in the early 1990s, and Constantinides (2002) proposed the 4 S web-marketing model. Yet, most, if not all, of these newly proposed marketing mix frameworks failed to stand the test of time.

Many would therefore quickly agree that the marketing mix concept has lost much of its former conceptual relevance and practical appeal. And yet, it remains ubiquitous in marketing education (Kotler & Keller, 2016), routinely employed in practice (Zineldin & Philipson, 2007), and still provides a valuable starting point and organizing framework in scientific studies, see e.g. Jindal et al. (2020) or Blut et al. (2018). The general relevance and importance of marketing mix taxonomies remains therefore unshaken.

Moreover, the marketing mix concept serves as a valuable reminder that marketing activities interact with each other. This interaction may occur as spillover between marketing activities (at the same time), or as carryover between past and present marketing efforts (Breuer & Brettel, 2012; Unnava & Aravindakshan, 2021). The notion of marketing as a mix of “ingredients” (McCarthy, 1960; Borden, 1964), theoretically reflects the idea that no single marketing instrument operates in isolation. Interactions or dynamics between the marketing activities are commonplace, as they may amplify each other, or, adversely, inhibit one another. This has been empirically substantiated by evidence demonstrating online channel spillover effects (Anderl, Becker, von Wangenheim, & Schumann, 2016). Hence, a marketing mix is more than the mere sum of its parts. The marketer’s job is akin to a Goldilocks’ test⁵, continuously trying to find the right “recipe” for maximum marketing effectiveness and budget efficiency – or, in short, marketing efficacy. To that end, knowing what tools and instruments are available and how they relate to one another is imperative.

Integrating Customer Journey and Marketing Mix Paradigms

Since the inception of the internet era, and with the proliferation of customer experience paradigm, the customer journey has become *en vogue* in marketing and retailing literature. Today, the concept of the customer journey is omnipresent in scholarship and practice. Rooted in the intellectual tradition of hierarchy of effects literature (Barry & Howard, 1990), widely known by the AIDA mnemonic, the customer journey concept is based on the premise that consumers pass stages in their (purchasing) decision-making (Lemon & Verhoef, 2016). Each of these stages is typically linked to distinct informational needs, goals or motivations, and mediums (Anderl, Schumann, & Kunz, 2016; Grewal & Roggeveen, 2020). Further, the notion of touchpoints in customer journey literature alludes to the idea of one-sided and two-sided interactions between firm and consumers (Herhausen, Kleinlercher, Verhoef, Emrich, & Rudolph, 2019).

Customer journey literature provides valuable insights into the complexities of consumer decision-making, the customer experience, and effective strategies for building customer relationships (Palmatier, Dant, Grewal, & Evans, 2006; Barwitz & Maas, 2018; Følstad & Kvale, 2018). However, the customer journey framework generally accentuates communications and placement of products and services (Grewal

⁵ The Goldilocks test or -principle is an analogy originating from the English fairy tale *Goldilocks and the Three Bears* (Steel, 1922). In the story, little girl *Goldilocks* tries three different bowls of porridge (as well as chairs and beds) until she finds one *not too hot, not too cold, but just right*.

& Roggeveen, 2020). From a strategic marketing perspective, this may entice overemphasizing some marketing instruments, such as advertising, while neglecting other areas of marketing activity, such as pricing.

Rather than competing paradigms, marketing mix and customer journey are two sides of the same coin. Customer journey literature rightfully puts consumers and their path to purchase (or journey) in the center of attention to gain deeper knowledge about consumer decision-making and relevant touchpoints. E-commerce firms, on the other hand, aim to communicate and engage with customers, and to shape their experiences along their journeys using marketing tools. The entirety of marketing activities and channels a focal online retailer is engaged in toward this end constitute its marketing mix.

Marketing Mix Taxonomies in E-Commerce

Despite the great number of prior marketing mix taxonomies, none has considered e-commerce to date. We therefore review four marketing mixes that appear particularly suitable to the e-commerce context. Although we checked a wide range of prior taxonomies for their appropriateness, we limit our in-depth discussion to the most successful and most appropriate for the e-commerce context. We discuss the seminal 4 P and 7 P frameworks, the E-Marketing Mix (Kalyanam & McIntyre, 2002), and Chernev's Marketing Tactics framework (Chernev, 2018).

The undoubtedly most successful 4 P taxonomy of marketing instruments was developed by McCarthy (1960), based on the work of Borden (1964). Notwithstanding its tremendous success, the 4 P framework has been frequently criticized from a conceptual standpoint, as has been discussed earlier. Consequently, over the years, numerous authors have proposed revised or entirely novel marketing mix taxonomies (Dominici, 2009). A widely acknowledged amendment to the 4 P was provided by Booms and Bitner (1981). The authors proposed *process*, *people*, and *physical evidence* as additional instruments, based on the argument that the 4 P are insufficient to adequately account for the differing nature of services.

Chernev (2018) describes his marketing tactics framework as an "novel interpretation" of the 4 P approach. Rather than four instruments, he suggests seven "factors": product, service, brand (all of which he relates to product in the 4 P framework), price, distribution (place), incentives and communication (promotion). His conceptualization caters to criticism regarding the "promotion" category, which has been criticized to unduly combine dissimilar functions (van Waterschoot & van den

Bulte, 1992). In addition, the inclusion of service and brand as distinct factors accounts for some points of critique regarding previous conceptualizations.

The E-Marketing Mix by Kalyanam and McIntyre (2002) was developed to “provide an approach to organizing the Internet-based activities of a marketing manager” (Kalyanam & McIntyre, 2002, p. 488). In contrast to the other conceptualizations, the E-Commerce Mix therefore represents a domain-specific taxonomy. It is important to note, however, that the 4 P remain at the core of the $4P + P^2 C^2 S^2$ framework.

Table C-1: Overview of Potentially Relevant Marketing Instrument Taxonomies

Author(s)	Concept	Methodology	Industry / Context
McCarthy (1960)	4 P	Conceptual	Consumer products
Booms and Bitner (1981)	7 P	Conceptual	Services
Kalyanam and McIntyre (2002)	E-Marketing Mix	Literature Review & Conceptual	E-Marketing
Chernev (2018)	Marketing Tactics	Conceptual	
This taxonomy		Desk Research, Literature Review, Open Card Sorting Task	E-Commerce

In the following, we evaluate the above taxonomies using five criteria suggested by Hunt (2015): specification of the phenomenon to be classified, specification of the classificatory principle, mutual exclusiveness and collective exhaustiveness of categories (MECE criteria), and usefulness of the classification.

As Table C-1 illustrates, all marketing mix frameworks were mainly developed conceptually. While conceptual development is an essential and integral part of research, it requires strong theoretical grounding. It is therefore critical to transparently elaborate the theoretical considerations that guided conceptual development (Yadav, 2010). However, of the four conceptualizations presented above, only two (7 P and E-Marketing Mix) state and elaborate on their conceptual reasoning and classification principle transparently and in sufficient depth.

The 4 P, the 7 P and the E-Marketing Mix share the original four P. However, as previously mentioned, the four P have been extensively criticized in the literature. Van Waterschoot and van den Bulte (1992) discussed three main areas of concern: (1) The properties or characteristics that are the basis for classification have not been identified, (2) the categories are not mutually exclusive, and (3) promotion represents a catch-all subcategory that is continually growing in importance. Hence, it remains unclear how marketing activities have been organized, the categories overlap with each other, leaving undue room for interpretation, and many different marketing tools are combined in the promotion category. By adopting the four P, the 7 P and E-Marketing Mix taxonomies at least partly perpetuate these shortcomings.

Further, while it is indeed remarkable how well the here discussed taxonomies stood the test of time, their age impacts practical usefulness. Many modern marketing tools emerged long after the taxonomies were postulated. In fact, when Kalyanam and McIntyre (2002) formulated their taxonomy neither the smartphone nor social media were widely adopted, just to point to two obvious examples. Consequently, it appears unlikely that existing taxonomies can exhaustively account for the many diverse forms of contemporary marketing tools.

Moreover, with the notable exception of the E-Marketing Mix, none of the discussed frameworks linked marketing tools to instruments. This results in ambiguity and leaves it to the individual to ponder and decide which marketing tool might relate to which marketing instrument. This property might be beneficial for universal applicability, as it leaves room for interpretation and adaptation. However, it stifles ready application by practitioners and researchers alike, and therefore reduces the usefulness of these frameworks.

In summary, existing taxonomies are incapable to adequately and exhaustively account for modern e-commerce marketing. Previous taxonomies and practitioner resources are unable to provide a satisfactory and state-of-the-art overview of currently available marketing tools in e-commerce. Moreover, it remains an open question whether e-commerce marketing is different from marketing in other industry contexts. In response to this unsatisfactory void, we comprehensively identify marketing tools and develop an e-commerce specific taxonomy of marketing instruments.

3. Marketing Tool Identification

Our empirical strategy comprised two phases. In the first phase, we identified marketing tools currently available to e-commerce firms. In the second phase, we then used the open card sorting method to intersubjectively identify marketing dimensions – general categories of related marketing tools. In doing so, we take inspiration from the approach by Kalyanam and McIntyre (2002), who approached taxonomy development by starting with a list of marketing tools and collating those into higher order instruments.

In the identification phase, we combined several search strategies to compile an exhaustive compendium of marketing tools available to e-commerce. To this end, we combined web research, a review of practitioner publications, references of review articles on e-commerce and online marketing, and a keyword search in academic literature. To prevent blind spots in our search, we moreover manually screened scientific articles in 22 leading⁶ journals from the fields of e-commerce, information systems, retailing and marketing. We confined our manual screening to articles published in 1994 or later, the year the first internet browser was introduced (Kahn, 2021). In the process, we manually read the titles and abstracts of over 63,000 journal articles and extracted a final set of 196 articles for further consideration. We combined this set of manuscripts with relevant articles referenced by two review articles on internet marketing (Corley, Jourdan, & Ingram, 2013) and e-commerce research (Ngai & Wat, 2002). Using VOSviewer software, we then extracted keywords serving as marketing tool candidates from title, abstract, and keyword sections.

In the next step, we combined the results of our different searches to compile an initial list of marketing tools. We consolidated this list by joining identical marketing tools, while preserving the aliases. To name the marketing tools, we adopted the approach by Kalyanam and McIntyre (2002) of using industry terminology. In a few cases, we added additional marketing tool aliases, where industry terms and keywords appeared to differ significantly. Each marketing tool was subsequently provided with a concise description, drawing on established definitions from the literature. In a few exceptions, we carefully formulated definitions if we were unable to identify a suitable definition. In doing so, we strengthen practical usefulness and bolster conceptual clarity, reproducibility, and intelligibility of our marketing tool compendium.

⁶according to Google Scholar (2021) metrics

Finally, three PhD students in marketing, who were independent of the research project, critically checked and validated the preliminary compendium for its exhaustiveness and clarity. Overall, the preliminary compendium was found to be comprehensive. Comments and points of discrepancy were resolved by discussion. Moreover, it was found that including aliases and providing definitions fostered the comprehensibility of the marketing tool compendium.

In total, our compendium encompasses 62 individual e-commerce marketing tools. Table C-4 in Appendix B provides a full overview, including definitions and common aliases in the literature. On the robust basis of this compendium, we subsequently classified marketing to develop a taxonomy of marketing instruments in e-commerce.

4. Marketing Tool Classification

We employed an open card sorting task method for the classification of marketing tools. Open card sorting is a tried and tested qualitative classification method, originally developed as a user experience design technique (Fincher & Tenenberg, 2005; Blanchard & Banerji, 2016). In comparison to other classificatory approaches, card sorting offers a range of advantages. Most importantly, card sorting allows for subject-driven (rather than researcher-driven) classification (Fincher & Tenenberg, 2005). Instead of extracting a pre-determined number of clusters based on numeric values, participants are tasked with classifying a set of “cards” (objects) in ways that appear sensical and meaningful to them.

Open card sorts do not necessarily presuppose the way in which objects are ought to be classified. For example, participants are free to decide how many “piles” (groups or categories) are suitable to categorize the objects, in which way (principle) objects should be classified or how often a given object can and should be part of a pile. Moreover, participants can freely assign labels to their groups if they wish doing so. Conversely, in closed card sorts, the categories (piles) are pre-specified, typically based on previous data or to cater to a specific theoretical lens. Up until quite recently, card sorting studies were typically conducted as closed card sorts with very small sample sizes, due to the qualitative nature and great complexity of the resulting data (Fincher & Tenenberg, 2005). Recent methodological advances now enable us to analyze large open card sorting datasets in a mixed-methods paradigm, combining quantitative and qualitative analyses (Blanchard, Aloise, & Desarbo, 2017).

Survey Design

We collected data via an online-survey and the online card sorting software *provenbyusers.com*. Data was collected from two expert groups: researchers and marketing executives with relevant experience and knowledge of the e-commerce industry. We directly approached both groups via email, inviting them to participate. Participants were carefully selected. In the case of researchers, we invited the editors and reviewers of the twenty most impactful marketing journals (by h5 index, according to Google Scholar, 2021) with publicly available contact details. We further approached the most senior marketing staff of the largest European e-commerce companies (by revenue, based on data by *ecommercedb.com*, 2022), where we were able to obtain contact details. In addition, we invited members of a leading national retail and e-commerce association.

In the survey, we first introduced participants to the general topic of the research. We then asked the experts about their job title, qualification, age, general knowledgeability, and experience regarding marketing in an e-commerce context, as well as their years of relevant experience. Additionally, we assessed participants' affinity for technology interaction using an established scale (Franke, Attig, & Wessel, 2018). Since the unusual task required that participants carefully read the instructions, we included an attention check, which all participants in the final dataset passed.

After having taken the introductory survey, participants were automatically routed to the online card sorting software. They were greeted by a screen explaining the task and a short text- and video-based tutorial. At all times during the card sorting exercise, participants were able to access and read descriptions of each marketing tool, which corresponded to the definitions in the marketing tool compendium (see Table C-4 in Appendix B). After participants finished their card sorting, they were again routed back to the survey. There, experts were asked about their confidence in their solution, the perceived difficulty of the task, and the principle or strategy of their sorting (if applicable, optional question).

Sample

After data collection, we cleaned the dataset to achieve robust results. Participants that provided too little useful information, i.e., those that sorted fewer than 5 marketing tools (less than 10% of all tools to be sorted), were excluded from further analyses. The resulting data set comprised of N=59 individuals (19 practitioners and 40 academics) who formed a total of 488 piles, including 399 unique piles. Correspondingly, on average, each participant formed 8.13 piles and used 50.56 (SD=20.12) cards in their

solutions. As Table C-2 shows, participants had an average age of 46.2 years (SD=12.2), and a mean of 11.58 years (SD=7.48) of relevant experience.

Table C-2: Descriptive Statistics - Sample

	n	M	SD
Age	51	46.2	12.2
Job Category	59		
Marketing Professional	11 (18.6%)		
E-Commerce Professional	8 (13.6%)		
Marketing Researcher	26 (44.1%)		
E-Commerce Researcher	8 (13.6%)		
Other	6 (10.2%)		
Qualification	59		
Secondary	1 (1.7%)		
Occupational / Vocational	3 (5.1%)		
Bachelor's or equivalent	7 (11.9%)		
Master's or equivalent	9 (15.3%)		
Doctoral or equivalent	38 (64.4%)		
Other	1 (1.7%)		
Knowledgeability (1-9)	58	6.93	1.45
Experience (1-9)	59	6.12	2.04
Relevant experience in years	59	11.58	7.48
Firm Size	18		
less than 10	4 (22.2%)		
11 – 25	1 (5.6%)		
25 – 50	1 (5.6%)		
51 – 200	5 (27.8%)		
201 – 500	2 (11.1%)		
500 – 1000	2 (11.1%)		
more than 1000	3 (16.7%)		
Affinity for Technology Interaction (1-6)	59	3.87	0.88
Confidence (0-100)	58	63.3	26.1
Perceived Difficulty (1-7)	58	4.0	1.38

Previous studies highlighted the effectiveness of the card sorting method in eliciting semi-tacit participant knowledge, its time efficiency, and simplicity (Rugg & McGeorge, 1997; Fincher & Tenenber, 2005). Our results on survey duration and perceived task difficulty support this. Despite the rather large set of objects to be classified, average total survey duration was below 15 minutes ($M=14:52$ min, $SD=9:42$ min). Additionally, participants perceived the task as not difficult on average ($M=4.0$, $SD=1.38$).

Independent sample Welch's t-tests revealed no significant differences in total survey duration ($t=-0.65$, $df=25.46$, $p=0.52$) between practitioners and academics. However, we found significant differences regarding affinity for technology interaction ($t=3.68$, $df=51.21$, $p<0.001$; $M_{\text{prac}}=4.36$, $M_{\text{aca}}=3.63$), solution confidence ($t=-2.11$, $df=29.13$, $p=0.044$; $M_{\text{prac}}=52.06$, $M_{\text{aca}}=67.98$), and perceived task difficulty ($t=-2.06$, $df=40.17$, $p=0.046$; $M_{\text{prac}}=3.50$, $M_{\text{aca}}=4.22$). Practitioners had therefore a higher technology affinity, were less confident in their task solution, but found the task itself less difficult.

Data Analysis

For analysis of the sorting task data, we relied on the optimization procedure developed by Blanchard et al. (2017). The purpose of the procedure is summarizing the main piles made by participants, and to obtain insights into the piles produced by participants. To do so, their procedure extracts a set of archetypical “summary piles” from the sorts of each participant. An optimization algorithm identifies a set of piles that represent the heterogeneous sorts of all participants as good as possible. The procedure further facilitates finding between-participant differences in sorting and helps assessing the prevalence of sorting strategies and principles.

As recommended (Blanchard et al., 2017), we sequentially executed the procedure 3 times for 300 seconds for each value of $K=1\dots30$, where K is the number of summary piles to be identified. Our results indicated negligible effects of local optima, meaning that executions with more summary piles did not result in significantly better fit. Examining how an increase in the number of summary piles reduces the number of mispredictions, we looked for an “elbow in the curve” via a scree plot, as is the typical approach. We identified the model where model fit was not significantly improved with the addition of more summary piles. The model with 13 summary piles, producing 1,979 mispredictions (out of $62 \times 488 = 30,256$ cells in the data, equaling a 93.5% accuracy), was deemed appropriate. Solutions with more than 13 piles showed only marginally

reduced error-rates. To illustrate, the solution with 30 piles (and the lowest overall error rate) had an error-rate of 5.2% corresponding to 94.8% accuracy.

To identify marketing mix dimensions, we inspected the 13 summary piles using the membership and accuracy tables resulting from the analysis procedure. We started by identifying the most prevalent classification strategies of participants. To achieve this, we followed the common approach of inductively labeling the identified summary piles, such that the labels adequately represented the included set of marketing tools.

5. Taxonomy Development

As previously discussed, summary pile analysis allows reconstructing and understanding participants' classification strategies. This offers in-depth insights into respondent perceptions of the classified objects, without requiring participant awareness or explicit expression. Regarding taxonomy development, assessing employed classification principles allows to critically evaluate their appropriateness and hence opens routes for participant-driven conceptualization. Consequently, we developed our taxonomy of marketing instruments in e-commerce by drawing on the summary pile analysis and an evaluation of classification strategies.

Classification Strategies

Participants' category (group) labels are a useful supplementary source of information for understanding participants' classification principles. They further help assessing the degree of consensus on categories. Note that assigning labels was optional, the absolute number of labels is therefore not representative for all participants. We found variations of the labels *pricing* (n=16), *advertising* (n=10), *website* (n=5), *digital marketing* (n=5), *promotion* (n=3) to be the most prevalent, confirming some earlier summary pile analysis results. Further, self-reported classificatory principles (a likewise optional question) shed light on the underlying considerations of participants' sorts. The most common approaches were sorting by perceived similarity (n=12), function or goal (n=8), based on conceptual reasons or theory (n=6), dividing between traditional and digital marketing tools (n=3), according to organizational responsibility (n=3), or based on an underlying psychological mechanism (n=2).

Compiling E-Commerce Marketing Mix Dimensions

Based on our assessment of classification strategies and the overlapping of summary piles, we merged some summary piles to arrive at the final set of marketing mix dimensions. Specifically, our initial set included individual piles for digital and

traditional marketing tools. Bivariate correlation analysis confirmed that participants who formed a digital marketing pile often also formed a pile with traditional marketing tools ($r = .35, p < .01$). These participants were additionally less likely to form a *community* ($r = -.39, p < .01$) and *advertising* ($r = -.33, p < .01$) pile. Inspection of the accuracy table further confirmed large overlap between these summary piles. Since the differentiation between traditional and digital marketing tools did not appear meaningful for our purpose, neither conceptually nor practically, we discarded these summary piles in favor of the *advertising* category. We further discarded two additional summary piles, *communication* and *marketing strategy*, based on their low covering rates (representing only a negligible number of piles) and likewise overlapping with the advertising pile.

We then named the remaining marketing mix dimensions (categories), by comparing our inductively derived descriptive labels with labels assigned by participants, checking whether our labels corresponded to those of participants. If a certain label occurred frequently and described the set of marketing tools more aptly, we adapted participant terminology.

Finally, we mapped the marketing tools to marketing mix dimensions, using the accuracy table. We assigned marketing tools to dimensions according to the highest accuracy score. In ambiguous cases, we consulted a similarity matrix that provides the percentages of how often a card was grouped with another card. The marketing tools *click & collect*, *customer service information*, *recommender systems*, *assurance seals*, *assortment*, and *channel integration* were not unambiguously assigned to any summary pile. Since the accuracy scores of the first four were only marginally below the inclusion threshold, we assigned them to the most suitable summary pile. The remaining two, *assortment* and *channel integration*, were assigned to an additional dimension - *offering* - based on their high bivariate similarity score.

Ambiguous Marketing Tool Mappings

One distinct advantage of the summary pile method lies in its ability to account for ambiguous and overlapping object assignments. We therefore briefly discuss ambiguous mappings of marketing tools. Based on summary pile analysis results, the marketing tools *coupons*, *rebates*, and *discounts* showcased partial overlap with the *pricing* dimension. However, accuracy scores were markedly lower than for *sales promotion*. The accuracy score for *website security* was nearly identical for the *website* and *privacy / security* dimensions. In line with previous marketing mix conceptualizations and e-service quality literature (Blut, Chowdhry, Mittal, & Brock, 2015), it was deemed more appropriate to co-assign it with *privacy*. In some cases, *online brand communities* and

online reviews were sorted as belonging to digital marketing if participants chose to differentiate between traditional and digital marketing. Considering the higher accuracy scores of both marketing tools in the *community* dimension, we opted to assign both to this dimension. The greatest disagreement regarded *influencer marketing*. It had high accuracy scores for the discarded digital marketing, communication, and marketing strategy piles, but a below-threshold score for the retained *advertising* dimension. We eventually opted to map it to the *community* dimension based on its accuracy score above the inclusion threshold, and its high similarity scores with *online brand communities* and *organic social media*.

6. Taxonomy of Marketing Instruments in E-Commerce

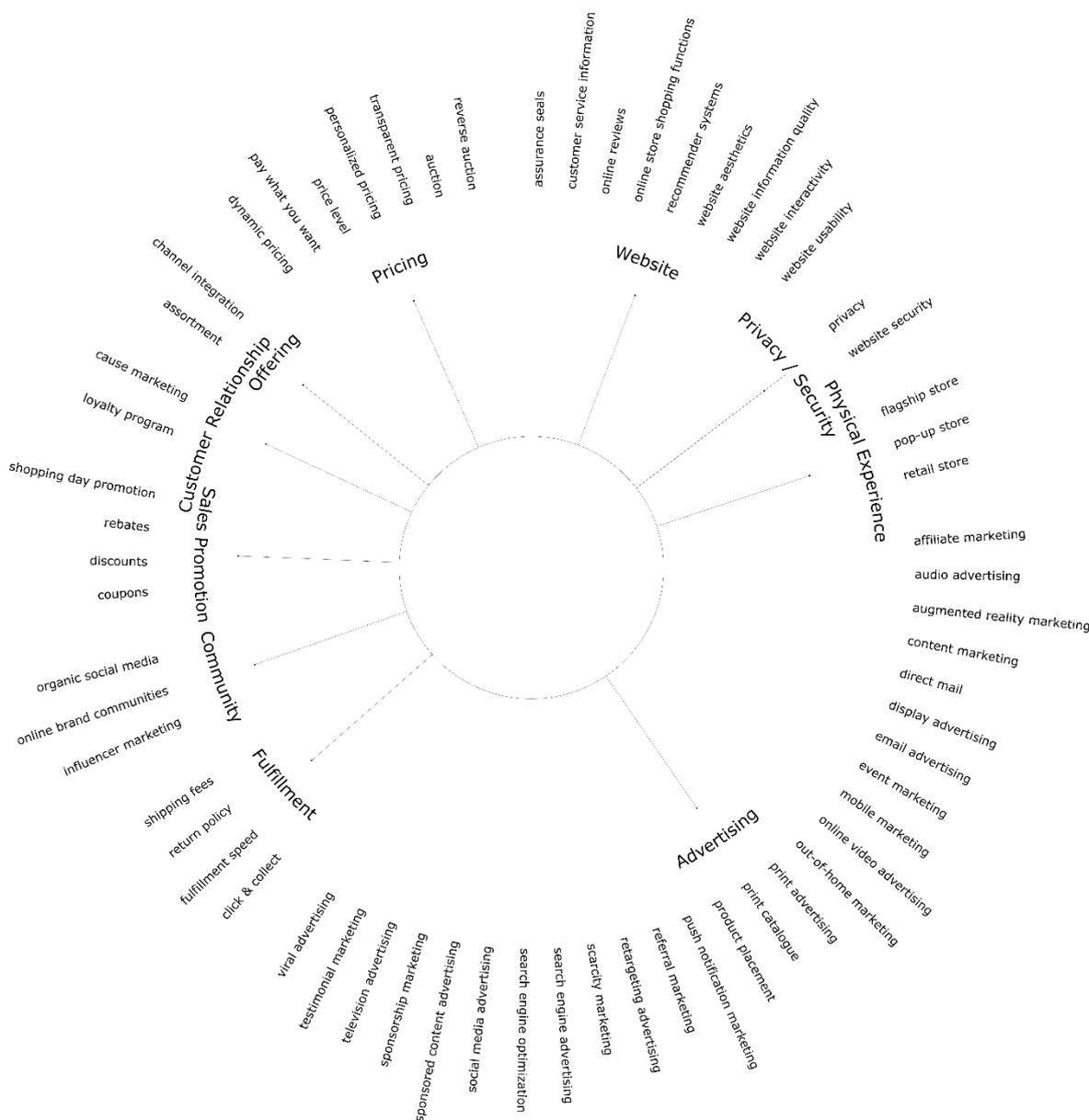
Our final taxonomy consists of 10 marketing mix dimensions and 62 corresponding marketing tools available in e-commerce marketing, Figure C-1 provides an overview. In the following, we briefly discuss each marketing mix dimension.

The *website* dimension represents marketing opportunities on the online shop. Online shops have long surpassed solely serving as sales or distribution channels. The layout, design, information, functionalities, and user experience of an online shop are important levers for conveying marketing messages. Insofar, this dimension is akin to in-store marketing in physical retailing.

In the age of cybercrime and omnipresent surveillance on the internet, *privacy and security* are continuously gaining in importance. Safeguarding and communicating both aspects can help e-commerce business to convey brand personality and to differentiate themselves from the competition. Online retailers hence increasingly need to balance their need for customer information and customer privacy expectations. Importantly, consumer privacy extends beyond browser cookies and online tracking, and can be of special relevance in some peculiar product contexts.

Physical experience encompasses ways of showcasing the brand in multimodal retailscapes and forging customer relationships through direct customer contact. Retail spaces provide unique opportunities for brand presentation and producing memorable brand experiences. They are therefore relevant levers for e-commerce marketing. Additionally, besides offering additional sales channels, physical retail spaces facilitate personal customer relationships and enable providing customer services. Their function as service points and pick-up locations may also provide added customer value in line with brand positioning.

Figure C-1: The E-Commerce Marketing Mix



Note: A high-resolution color version of this figure can be accessed online (refer to Appendix E) Refer to Table C-5 in Appendix D for a table version.

The role of delivery-related opportunities for e-commerce marketing is represented by the *fulfillment* dimension. These marketing tools ideally reflect brand positioning and can help to communicate brand personality. Conversely, a mismatch between brand image and delivery performance might produce negative outcomes. E-commerce marketers should therefore include this dimension in marketing management.

Online retailers increasingly engage in interactive communication via social media and strive to build strong a community of customers, reflected by the *community* dimension of the e-commerce marketing mix. Marketing tools in this dimension afford

building a firm-centered customer community, thereby enabling consumers to interact with the online retailer, content creators and experts, as well as among themselves. A successfully implemented community strategy can provide significant opportunities for customer engagement.

Sales promotion comprises price-based stimuli to directly trigger conversions and sales. These marketing tools help in activating an existing customer base, attract new customers, and can effectively generate short-term revenue. Moreover, sales activation tools may be successfully employed for conveying a price leadership brand positioning. However, marketers should employ sales promotion with appropriate caution, due to the risk of reference price erosion and the immediate profit impact of sales promotion.

Customer relationship seeks to cultivate e-tailer-customer relationships, foster customer retention, and nourish customer loyalty. To that end, e-commerce firms may cater to shared values in their target segment, specific consumer tribes, or subcultures through cause-related marketing activities. Loyalty programs, on the other hand, reward loyal behavior and offer customers personalized information and promotions. Successful application of these marketing tools promises to induce perceptions of reciprocity, which in turn might elicit positive attitudes towards the e-tailer.

Online retailers can convey marketing messages through its *offering*, comprising offered products, the wider assortment, and the integration of channels. For example, unknown online retailers may offer well-known product brands in their assortment to signal trustworthiness. Another example are niche e-tailers that compose their assortment to appeal to their target group and to convey associations of product knowledge and competence.

Finally, *pricing* contains marketing tools linked to e-tailer price image and price-setting mechanisms. Product price is a crucial determinant of online patronage. Price comparison websites offer near-perfect price transparency on the internet. Pricing is therefore a significant lever in e-commerce marketing. Price-setting mechanisms such as transparent pricing can influence customer perceptions and may be employed to transport brand image. Consequently, marketers should consider brand image impact of price-related signals and take care to ensure alignment of brand positioning and price image.

7. Assessing Taxonomy Robustness

To assess and ensure the robustness of our derived taxonomy of marketing instruments in e-commerce, we repeated the summary pile procedure for both expert groups individually and replicated our analysis using a conventional classification approach: hierarchical cluster analysis.

Comparison of Practitioner and Researcher Solutions

Since we found some significant differences concerning control variables between the academics and practitioner groups, we repeated our summary pile analysis for both groups separately. This allows us to assess differences in perceptions between both groups and can therefore help to identify any discrepancies in understanding. Likewise, it may aid in reconnecting e-commerce marketing research and practice.

For the practitioner group a solution with 13 summary piles (594 mispredictions, equivalent to 93.7% accuracy) best represented participant sorts. This solution provided direct support for the dimensions *physical experience*, *sales promotion*, *pricing*, *website*, *fulfillment*, *community*, *advertising*. Interestingly, we identified two piles that seem to correspond to above-the-line-marketing (ATL), marketing tools that typically offer untargeted broad reach (Common Language Marketing Dictionary, 2022). Another peculiarity was found in a pile only containing search engine optimization, potentially indicating uncertainty regarding this marketing activity in practice. Moreover, we found one pile, which we labeled “other”, that included many different tools. In the practitioner solution, all marketing tools were assigned to at least one summary pile.

A 12-pile solution (1336 mispredictions, equivalent to 92.1% accuracy) provided the best fit for the academics group. Inspection of this solution substantiated the appropriateness of *customer relationship*, *physical experience*, *privacy / security*, *advertising*, *community*, *website*, and *fulfillment* dimensions. Notably, this solution contained a *pricing* pile, but, in contrast to the practitioner solution, did not differentiate between *sales promotion* and *pricing*. We moreover identified piles for *communication* and *marketing strategy*, which we discarded in our overall solution. Academics’ solution left the marketing tools *assortment*, *channel integration*, *customer service information*, and *assurance seals* unassigned.

Accordingly, academics and practitioners agree on the dimensions: *physical experience*, *website*, *fulfillment*, *community*, and *advertising*. Additionally, both groups showcased a shared tendency to differentiate between traditional marketing and digital marketing. Moreover, academics’ solution engendered *customer relationship* and

privacy / security dimensions, reflecting the relationship marketing paradigm and e-service quality literature. Conversely, practitioners contributed by differentiating *pricing* and *sales promotion* tools, a distinction which likewise has been proposed in prior literature. In addition, we note practitioners clustered some advertising marketing tools to an overlapping ATL category. This may indicate a specific function of these marketing tools, presumably creating brand awareness. Finally, we found uncertainty in both groups regarding the marketing tools constituting the *offering* dimension. While the corresponding marketing tools were left unassigned in the academic group, the respective summary piles in the practitioner solution showcased miniscule covering rates.

Replication via Hierarchical Cluster Analyses

To further corroborate the robustness of our taxonomy and to validate the appropriateness of our method, we conducted hierarchical clustering as an alternative analysis. Using hierarchical clustering for categorization is a widely proliferated approach. In contrast to the summary pile extraction method, however, hierarchical clustering requires arbitrary transformation of the created piles in the original data into bivariate similarities, which potentially influence the result (Blanchard et al., 2017). For this reason, using this approach for open card sorting data is generally not recommended (Fincher & Tenenbergh, 2005; Blanchard & Banerji, 2016).

Due to the binary nature of card sorting data, a typical practitioner approach involves simply counting the co-occurrence of object pairs and calculating a percentage value (Proven By Users, 2022). This percentage represents how often two objects have been sorted together in the same pile. However, this approach neglects how often both objects have been sorted in piles individually, *without* the other being present. Hence, it only measures similarity, while disregarding dissimilarity. This is problematic if one object is sorted more often than its counterpart, as is regularly the case in card sorting tasks. The Jaccard index is a more suitable similarity metric for the analysis of binary sorting task data. It considers the co-occurrence of two objects, as well as one object occurring while the other being absent. In mathematical terms, it divides the area of intersection (or overlap, two objects being in the same pile) by the area of union (the number of piles including at least one of both objects). The Jaccard index therefore adjusts the similarity score for dissimilarity, and we therefore strongly recommend its usage for card sorting data analyses when using bivariate analysis methods.⁷

⁷ To further illustrate this point, consider two objects: A and B. Assume A has been included in 10 piles and B is present in 8 of these piles. In this scenario, their counted similarity equals 0.8 or 80%. Now consider that B

Importantly, however, both similarity metrics cannot ameliorate the significant caveat of transforming data into pairwise comparisons. Since common hierarchical clustering methods rely on these similarity scores as data input, their results do not adequately reflect participants' sorts, discard information pertaining to categorization principles, and may be influenced by researcher degrees of freedom. Moreover, it is well established that clustering outcomes are sensitive to researcher decisions, such as which clustering algorithm to use and the number of clusters to identify.

Notwithstanding these caveats, we analyzed our data using Jaccard index similarity scores and three common clustering algorithms: average linkage, McQuitty, and Ward's (Murtagh & Contreras, 2012). We set the number of clusters to 10, in line with our summary pile analysis result. The tree algorithms vary in their cluster identification approach, and thus frequently lead to differing cluster solutions.

Overall, we found supporting evidence for our final taxonomy in the hierarchical clustering results (refer to Appendix E for full cluster analysis solutions). Despite considerably diverging cluster solutions, all individual results supported the decision to combine *assortment* and *channel integration* in the *offering* dimension, as they are closely linked in all solutions. Similarly, the distinction of *pricing* and *price promotion* was supported by all cluster analysis results. This finding is well in line with previous literature criticizing "classical" marketing mixes for lumping together price and price promotion (van Waterschoot & van den Bulte, 1992). Furthermore, all clustering results corroborated *physical experience* as a discrete marketing mix dimension in addition to *website*. Participants' tendency to differentiate between digital and traditional marketing tools was also present in all cluster analysis solutions. The McQuitty and average linkage solutions further provided supportive evidence for the *customer relationship*, *community*, and *fulfillment* dimensions.

Yet, importantly, cluster analysis solutions confirmed our reservations regarding their use for analyzing card sorting datasets. Identified clusters were markedly heterogeneous across cluster analysis results. The solutions differ on the category level as well as regarding included marketing tools in comparable categories. They moreover do not adequately represent groups formed by participants and prohibit interpreting classificatory principles used by participants. Finally, the supportive evidence provided

is present in 20 piles in total. To calculate the Jaccard index, we divide the number of co-occurrences (8) by the total number of piles in which each or both objects are included ($10+20-8 = 22$). Accordingly: $8/22 = 0.36$, while the counted similarity remains unchanged at 0.8. Thus, the results of any subsequent analyses can differ dramatically between both approaches. If at all, card sorting data should therefore always be analyzed using the Jaccard index.

by hierarchical cluster analyses could be more frugally obtained by inspecting the underlying Jaccard index matrix. We therefore advise calculating such a similarity matrix in addition to the summary pile analysis, and recommend using it as a supplementary resource when interpreting results.

8. General Discussion, Implications and Future Research

We developed the first taxonomy tailored to the e-commerce context. Our taxonomy of marketing instruments in e-commerce uncovers previously unconsidered, novel e-commerce marketing mix dimensions. At the same time, it summarizes the wealth of possibilities in e-commerce marketing and integrates pivotal marketing paradigms. In extension to previous taxonomies, we identified the novel e-commerce mix dimensions *fulfillment*, *physical experience*, and *customer relationship*. The remaining dimensions correspond in varying degrees to previous taxonomies, and thereby synthesize prior frameworks' conceptual advances, while providing a much-needed update regarding associated marketing tools. Finally, the taxonomy development process brought practitioner's voice back to the debate, reconnecting research and practice.

Contribution

The contributions of our taxonomy lie consequently, first, in the identification of presently available marketing tools in e-commerce. By identifying 62 archetypical marketing tools in e-commerce, we provide a comprehensive and digestible overview of tactical marketing options. We propose a common vocabulary and improve conceptual clarity through literature-based marketing tool definitions.

Second, our research contributes by developing a replicable, robust, and comprehensive e-commerce marketing mix framework. The open card sorting method and the summary pile analysis procedure allowed us to uncover prevalent classification strategies. This novel expert-driven approach to taxonomy development ensured robustness and comprehensiveness through its intersubjectivity. Transparency regarding experts' classification principles, our conceptual reasoning, and the taxonomy development process ensure replicability.

Third, our taxonomy integrates conceptual advances of previous marketing mixes, and accounts for developments in marketing technology and the different marketing paradigms that have emerged over the years. As such, it integrates service marketing, relationship marketing, customer centricity, customer journey paradigms. It further

comprehensively considers currently available marketing tools, providing a much-needed update to previous taxonomies.

Fourth, our taxonomy synthesizes knowledge from several streams of literature, providing an integrative framework, which we hope proves valuable in each of these literatures. Our taxonomy connects the e-service quality literature, by including the website and service-related dimensions, and the attribution and marketing effectiveness literatures, by providing a comprehensive overview of marketing activities and channels – including frequently neglected offline marketing tools.

Finally, aside from these conceptual contributions, we demonstrated the successful application of an innovative methodological approach to framework (taxonomy) construction. We found the open card sort method a very suitable approach for intersubjectively classifying large numbers of objects. In addition, in our specific application, the summary pile analysis procedure proved superior to hierarchical clustering methods and demonstrated its ability to provide perceptual information valuable for theorizing.

Managerial Implications

E-Commerce marketing managers find in our taxonomy a helpful and up-to-date overview of available marketing tools. Hence, it may prove an invaluable reference for designing an effective e-commerce marketing strategy. Using our taxonomy, managers can spot currently disregarded and underused marketing instruments that can help achieve marketing goals. Thus, it can assist in putting appropriate emphasis across marketing instruments.

Using our taxonomy might help in debiasing marketing decision-making, by reducing the reliance on recall and mental availability of existing options in e-commerce marketing. It facilitates marketing strategy planning by providing a comprehensive overview of e-commerce marketing dimensions and available marketing tools for achieving corresponding marketing aims. By providing such an overview, this taxonomy might further inspire marketing executives to implement a marketing mix that better suits their company's positioning and circumstances.

This taxonomy may moreover assist in overcoming the widely proliferated transactional mindset in e-commerce marketing. Performance marketing and the fierce price competition in e-commerce have led to widespread short-termism, expecting and demanding immediate revenue effects from all marketing activity. However, focusing on stimulating immediate revenue risks neglecting critical long-term marketing goals,

such as building a strong e-tailer brand, nurturing customer relationships, and encouraging customer loyalty.

Future Research Opportunities

Our results raise new questions. Due to the exploratory nature of our research, the relative importance or effectiveness of the marketing tools and instruments remains an open question. Future research could address this by investigating the effectiveness of all ten marketing instruments concurrently. Moreover, since our investigation was limited to the e-commerce context, a replication of our research in other industry contexts may yield useful and insightful results. Although we developed our taxonomy on a solid empirical basis, using expert judgment to classify marketing tools, our taxonomy could potentially benefit from further validation. In addition, since we limited the scope to e-commerce, it appears fruitful to investigate whether our framework is equally applicable to traditional and omnichannel retailing settings. Finally, to the best of our knowledge, we are the first to employ the open card sorting method for conceptual framework development. Future research could take inspiration from our methodological approach to, for example, investigate the suitability of marketing tools along the customer journey.

9. Conclusion

We set out to comprehensively identify currently available marketing tools and intersubjectively classify those into e-commerce marketing mix dimensions. In compliance with Hunt's (2015) criteria for taxonomy evaluation, we took care to thoroughly specify the phenomenon to be classified: marketing tools currently available to e-commerce businesses. Since we used an innovative intersubjective method to classify marketing tools, we did not specify a classification principle a priori. Rather, we investigated classification principles employed by our expert participants, assessed their appropriateness, and heavily drew onto them for taxonomy development. By transparently reporting participant classification strategies and our reasoning, we simultaneously ensure replicability of our research. Concerning the collective exhaustiveness of taxonomy categories, we went to great lengths to identify existing marketing tools in e-commerce. Category exhaustiveness was further achieved by involving knowledgeable expert judges in the taxonomy development process. Similarly, by using accuracy and similarity scores to map marketing tools to their respective marketing mix dimension, we were able to assess and ensure the mutual exclusiveness of the classification result. Finally, while we cannot possibly demonstrate

the usefulness of our classification before the fact, the persistent demand of such a resource in various areas of application and the intersubjective development process make us confident that our taxonomy will prove valuable and useful in education, research, and practice.

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Appendices

Appendix A: List of Manually Screened Journals

Table C-3: List of Manually Screened Journals

Electronic Commerce Research and Applications
Electronic Markets
European Journal of Marketing
Information Systems Research
International Journal of Electronic Commerce
International Journal of Research in Marketing
International Journal of Retail and Distribution Management
International Journal of Service Industry Management,
International Review of Retail, Distribution and Consumer Research
Journal of Business Research
Journal of Consumer Behaviour
Journal of Consumer Marketing
Journal of Electronic Commerce Research (JECR)
Journal of Interactive Marketing
Journal of Internet Commerce
Journal of Management Information Systems
Journal of Marketing
Journal of Marketing Management
Journal of Marketing Research
Journal of Organizational Computing and Electronic Commerce
Journal of Retailing
Journal of Retailing and Consumer Services
Journal of Service Management
Journal of Service Research
Journal of Services Marketing
Marketing Science
Service Business
Service Industries Journal

Appendix B: Compendium of Marketing Tools in E-Commerce

Table C-4: Compendium of Marketing Tools in E-Commerce

	Marketing Tool	Aliases (in the Literature)	Description / Definition
	1. affiliate marketing		Firm-placed links for a business on partners' websites. The partner earns a commission whenever a visitor follows the link and finalizes a predefined transaction, such as a purchase or registration. (Anderl, Schumann, & Kunz, 2016)
	2. assortment	assortment integration, product assortment, online assortment	The total range of products sold in an (online) store catering to specific target segments.
	3. assurance seals	Third-party assurance seal, structural assurances	Electronic labels—consisting of logos, pictures, and symbols—that indicate the e-merchant conforms to specific standards (e.g., transaction security, privacy laws, integrity of business practices). (Mattison Thompson, Tuzovic, & Braun, 2019)
77	4. auction	forward auction, English auction	A selling approach in which prices are determined by the highest bid from buyers, subject to any minimum stipulated by the seller (Kalyanam & McIntyre, 2002)
	5. audio advertising	podcast advertising, radio advertising	Paid non-personal audio-based communication from an e-tailer to persuade or influence potential customers. Based on (Richards & Curran, 2002)
	6. augmented reality marketing	AR advertisement, AR marketing	Integrating digital information or objects into the subject's perception of the physical world, often in combination with other media, to expose, articulate, or demonstrate consumer benefits to achieve organizational goals. Adapted from (Rauschnabel, Felix, & Hinsch, 2019)
	7. cause marketing		Linking a brand with causes / charities to achieve corporate and non-profit objectives. (Samu & Wymer, 2009)
	8. channel integration	Multichannel assortment integration, online-offline channel integration	The degree to which different channels interact with each other. (Bendoly, Blocher, Bretthauer, Krishnan, & Venkataramanan, 2005)

9.	click & collect	BOPS, buy online pick up in store	Customers can collect their order placed in an online shop from a certain place at a lower price compared to home delivery. (Milioti, Pramatari, & Kelepouri, 2020)
10.	content marketing	blogging	A technique of creating and distributing valuable, relevant and consistent content to attract and acquire a clearly defined audience—with the objective of driving profitable customer action. (American Marketing Association, 2021)
11.	coupons	omni coupons	A certificate that gives an immediate price reduction upon purchase of a product. (Lu & Moorthy, 2007)
12.	customer service information	Wiki, help center, FAQ, help desk	A section or webpage on the online shop where customers can find information pertaining the customer service of the online retailer, such as return policy, guarantees, and service procedures.
13.	direct mail	direct marketing	An unsolicited postal mail piece in which the sender has the intent of selling products and/or services to the recipient (Morimoto & Chang, 2006)
14.	discounts	price discounts, price discount	A promotional non-personalized price reduction.
15.	display advertising	online display, online display advertising, banner advertisements, banner advertising	Digital graphics or banners that are embedded in Web content pages that redirect to the advertiser's website after clicking on them. Adapted from (Anderl, Schumann, et al., 2016)
16.	dynamic pricing		The planned action of a seller to change his posted prices at arbitrary times within the selling horizon (that is, "dynamically") in order to respond to changes in demand or competition-related conditions with the goal of maximizing total profit. (Gönsch, Klein, Neugebauer, & Steinhardt, 2013)
17.	email advertising	e-mail design, e-mail click, newsletter advertising, email campaigns, email newsletter	Email advertising includes both ads within an email and entirely promotional emails. Promotional newsletters require the consumer's permission, which distinguishes email advertising from unsolicited commercial messages, or spam (Anderl, Schumann, et al., 2016).
18.	event marketing	promotional events	The experiential marketing of a brand, service, or product through memorable experiences or promotional events. (Wood, 2009)

19.	fulfillment speed	next-day delivery, rapid delivery	Fulfillment time from the moment of ordering to the receipt of the order.
20.	influencer marketing		Engagement of selected influencers, online personalities with large numbers of followers, across one or more social media platforms, to create and/or promote branded content to both the influencers' own followers and to the brands' target consumers. Adapted from (Lou & Yuan, 2019)
21.	loyalty program	loyalty scheme	An integrated system of marketing actions that aims to make customers more loyal by developing personalized relationships with them. (Meyer-Waarden, 2008)
22.	mobile marketing	mobile apps, app	Any marketing activity conducted through a ubiquitous network to which consumers are constantly connected using a personal mobile device. (Kaplan, 2012)
23.	online brand communities	Brand communities, Internet community forums, virtual brand community	An online community based on social communications and relationships among a brand's (or e-tailers) consumers. (Brodie, Ilic, Juric, & Hollebeek, 2013)
24.	online reviews	online user reviews, customer reviews	Detailed comments from other consumers on the pros and cons of goods and services sold in an online store. (based on (Wan, Ma, & Pan, 2018)
25.	online store shopping functions	Shopping list, cart recovery, search tools, product sorting	Functions, such as only selecting products of a certain color, sorting them by price, or saving them for later, that facilitate browsing, searching and shopping on an e-tailers website.
26.	online video advertising	YouTube advertising	Advertisement on video streaming services, either as video clips or in-video banners. (based on Dehghani, Niaki, Ramezani, and Sali (2016)
27.	organic social media		Unpaid posts from an e-tailer's social media page. Adopted from (Chawla & Chodak, 2021)
28.	out-of-home marketing	OOH, signage, billboard, outdoor advertising, digital signage	Out-of-home advertising includes billboards, transit, street furniture, and alternative outdoor advertising (stadium advertising, etc.). adapted from (Wilson & Till, 2008)
29.	pay what you want	Name-your-own-price, name your price	Asking a customer to make a price offer for which to buy a certain product. If a minimum threshold price is met, a transaction occurs. Adopted from (Hinz, Hann, & Spann, 2011)

30.	personalized pricing	Norm-breaking pricing, price discrimination	Charging different prices to different consumers based on their willingness to pay. Adapted from (Choudhary, Ghose, Mukhopadhyay, & Rajan, 2005)
31.	pop-up stores		A temporary retail environment that delivers a brand experience. (Henkel & Toporowski, 2021)
32.	price level	Internet pricing, online category pricing	The actual price level that an e-tailer charges its customers in comparison to alternative outlets. Based on (Cao, Gruca, & Klemz, 2003)
33.	print advertising	newspaper advertising, magazine advertising, print advertorials	Paid non-personal communication from an e-tailer using print media to persuade or influence potential customers. Based on (Richards & Curran, 2002)
34.	print catalog	print catalogue	A printed catalogue showcasing (a part of) the assortment.
35.	privacy	intrusiveness, perceived privacy risk, website privacy	Privacy of shared information during or after the sale. (Holloway & Beatty, 2008)
36.	product placement	Brand placement	The paid inclusion of branded products or brand identifiers, through audio and/or visual means, within mass media programming. (Karrh, 1998)
37.	push notification marketing	sms advertising, mobile text message	Promotional unidirectional text-based (unprompted) push messages. Based on (Drossos, Giaglis, Lekakos, Kokkinaki, & Stavraki, 2007)
38.	rebates		A refund sent to the buyer after a purchase. (Lu & Moorthy, 2007)
39.	recommender systems	Product recommendations	A website functionality to deliver personalized recommendations to online users, allowing them to discover new products and sort through large choice sets. Adapted from (Panniello, Hill, & Gorgoglione, 2016)
40.	referral marketing		A word-of-mouth initiative designed by a company to incentivize existing customers to introduce their family, friends and contacts to become new customers. Adapted from (Berman, 2016)
41.	retargeting advertising	retargeting campaign, retargeted advertising	A special form of display advertising that uses a consumer's browsing history to deliver personalized banners. In generic retargeting, retailers target Internet users who have previously visited their website with generic ads. Dynamic retargeting ads instead display the exact product or product category that the consumer looked at previously. Adapted from (Anderl, Schumann, et al., 2016)

42.	return policy	returns, returns policy, perceived returns policy fairness, return policy leniency, return shipping policies, returns policies, return policy fairness, product returns	A promise of refund or product exchange for previously bought goods satisfying the return requirements. Adapted from (Shao, Cheng, Wan, & Yue, 2021)
43.	scarcity marketing	product scarcity	The deliberate shortening of product or service availability and the communication thereof (Koch & Benlian, 2015)
44.	search engine advertising	Paid search advertising, sponsored search, paid search, adwords, search engine advertising, sea	Advertisers pay a fee to internet search engines to be displayed alongside organic (non-sponsored) web search results. (Ghose & Yang, 2009)
45.	search engine optimization	seo, keyword marketing	Improving the position on a general search engine's (e.g., Google, Bing, Yahoo!, Baidu) results page through a variety of optimization techniques. Adapted from (Dou, Lim, Su, Zhou, & Cui, 2010)
46.	shipping fees	free shipping promotions, delivery cost	The monetary cost of delivery for a customer of an order placed online.
47.	shopping day promotion	Black Friday promotion, Singles Day promotion, Cyber Monday promotion, event-specific promotion	A time-limited regularly (yearly) recurring promotional event, typically on national holidays or special dates.
48.	social media advertising	paid social media	Social media advertising comprises a set of advertising platforms belonging to the field of social media, such as social networks (e.g., Facebook), micromedia (e.g., Twitter), or other (mobile) sharing platforms (e.g., Instagram). (Anderl, Becker, von Wangenheim, & Schumann, 2016)
49.	sponsored content advertising	native advertising	A text-based promotional message typically embedded in the context of a website and related to the subject matter of the site. Adapted from (Becker-Olsen, 2003)
50.	sponsorship marketing	sponsoring	The sponsorship of sports, arts, and causes for the purpose of building and communicating an association to a sponsorship. Adapted from (Cornwell, Weeks, & Roy, 2005)

51.	television advertising	Television ad, TV ad	Paid non-personal communication via television from an e-tailer to persuade or influence potential customers. Based on (Richards & Curran, 2002)
52.	testimonial marketing	testimonial	A celebrity, expert, or an unknown person, who is presumably representative of the target market, endorsing a product or brand in an advertisement. Adapted from (Martin, Wentzel, & Tomczak, 2008)
53.	transparent pricing		Revealing information about how price proceeds are allocated among all major supply-side agents who bring a product to market.(Carter & Curry, 2010)
54.	viral advertising	viral marketing	Unpaid peer-to-peer communication of provocative content originating from an e-tailer using the Internet to persuade or influence an audience to pass along the content to others. (Porter & Golan, 2006){Porter, 2006 #392}
55.	website aesthetics	online store design, atmospherics, online store atmospherics, perceived user web experience, store design, visual web design, visual cues, website aesthetics, web aesthetics, web atmospherics, web site design, web design, retail website design, online store layout design, website aesthetics, atmospheric factors, background music	How different web design elements and attributes are combined to yield an impression of beauty. Based on (Wang, Minor, & Wei, 2011)
56.	website information quality	information quality	Accurate, updated, and appropriate information on the website. Adapted from (Loiacono, Watson, & Goodhue, 2002)
57.	website interactivity	retail web site interactivity, live chat, chat-bots	The degree to which two or more communication parties can interact with each other the website, and the degree to which such interactions are synchronized. Based on (Liu & Shrum, 2002)
58.	website security	safe shopping, security, security concerns	Security of a site and transactions, and the types of security measures deployed. Adapted from (Kalyanam & McIntyre, 2002)

59.	website usability	web site quality, website characteristics, web usability, website usability, holistic website perception, perceived site quality, online store perception, e-commerce platform quality, usability, perceived ease of use, customer interface quality	The user's general perception of navigability-and functionality of the web site. Adopted from (Lowry, Vance, Moody, Beckman, & Read, 2008)
	reverse auction	Dutch auction	A buying approach in which prices are determined by the highest bid from sellers (Kalyanam & McIntyre, 2002)
	flagship store		A larger than average specialty retail format in a prominent geographical location, offering the widest and deepest product range within the highest level of store environment and serving to showcase the brand's position, image and values. (Nobbs, Moore, & Sheridan, 2012)
	retail store	bricks-and-mortar store, physical store	A permanent physical retail format at a fixed geographical location.

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Appendix D: Taxonomy of Marketing Instruments in E-Commerce

Table C-5: Taxonomy of Marketing Instruments in E-Commerce

	Dimension	Marketing Tools		
1	Website	<u>assurance seals</u> <u>customer service</u> <u>information</u> online reviews	online store shopping functions <u>recommender</u> <u>systems</u> website aesthetics	website information quality website interactivity website usability
2	Privacy / Security	privacy website security		
3	Physical Experience	flagship store pop-up stores	retail store	
4	Advertising	affiliate marketing audio advertising augmented reality marketing content marketing direct mail display advertising email advertising event marketing mobile marketing online video advertising	out-of-home marketing print advertising print catalogue product placement push notification marketing referral marketing retargeting advertising scarcity marketing	search engine advertising search engine optimization social media advertising sponsored content advertising sponsorship marketing television advertising testimonial marketing viral advertising
5	Fulfillment	click & collect fulfillment speed	return policy shipping fees	
6	Community	influencer marketing online brand communities	organic social media	
7	Sales Promotion	coupons discounts	rebates shopping day promotion	
8	Customer Relationship	loyalty program cause marketing		
9	Offering	<u>assortment</u> <u>channel integration</u>		
10	Pricing	dynamic pricing pay what you want price level	personalized pricing transparent pricing	auction reverse auction

Note: Underscored marketing tools were assigned based on accuracy and similarity scores

Appendix E: Colored High-Resolution Version of Figure C-1

Due to space limitations, Figure C-1 cannot be shown adequately in the manuscript. A colored high-resolution version of Figure C-1 is therefore available for download from the Online Appendix at:

https://osf.io/pkfsw/?view_only=2cb5dc37e28844609c33cbb7478c30d9

Appendix F: Hierarchical Cluster Analyses Solutions

Figure C-2: Hierarchical Cluster Analysis (Average Linkage)

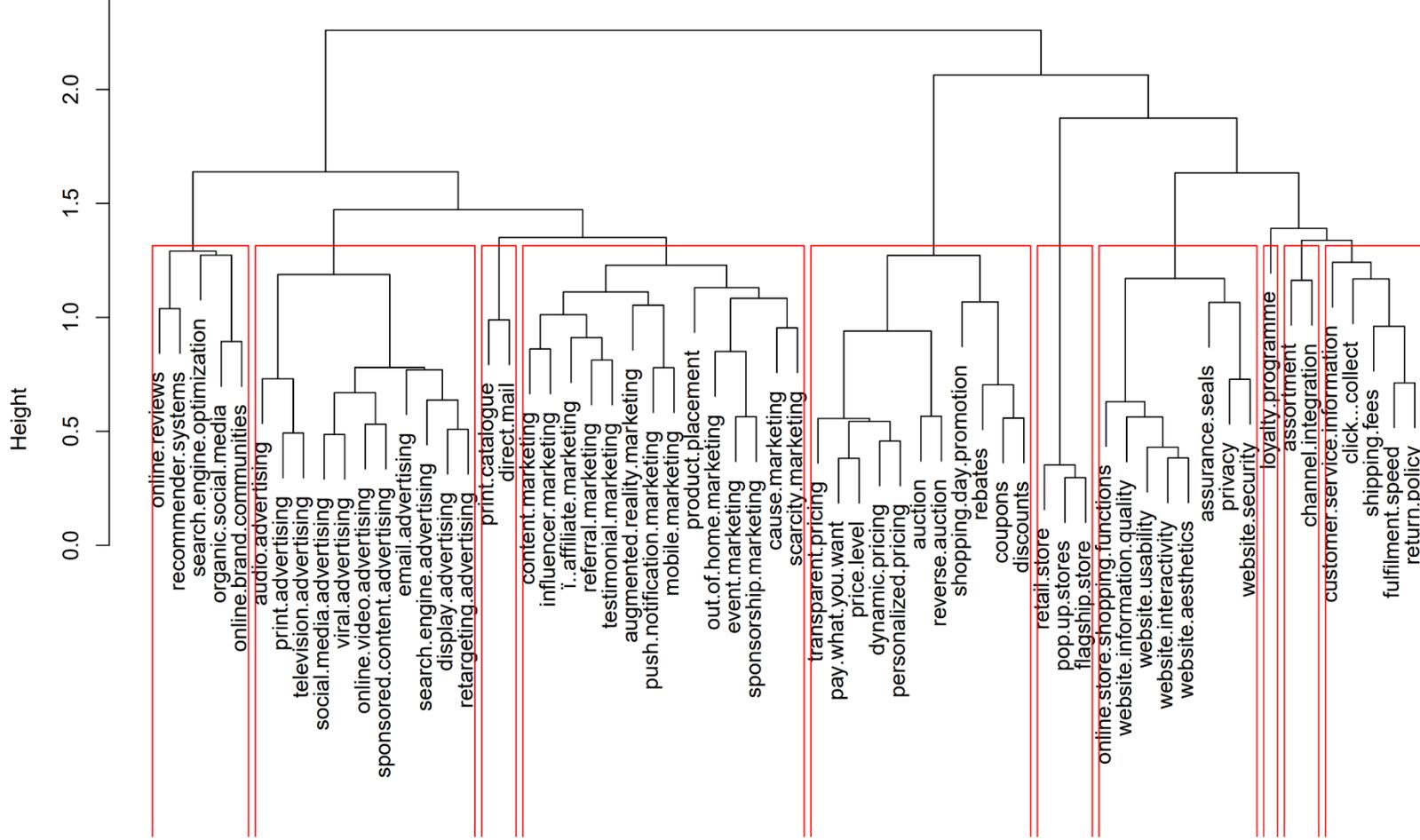


Figure C-3: Hierarchical Cluster Analysis (McQuitty)

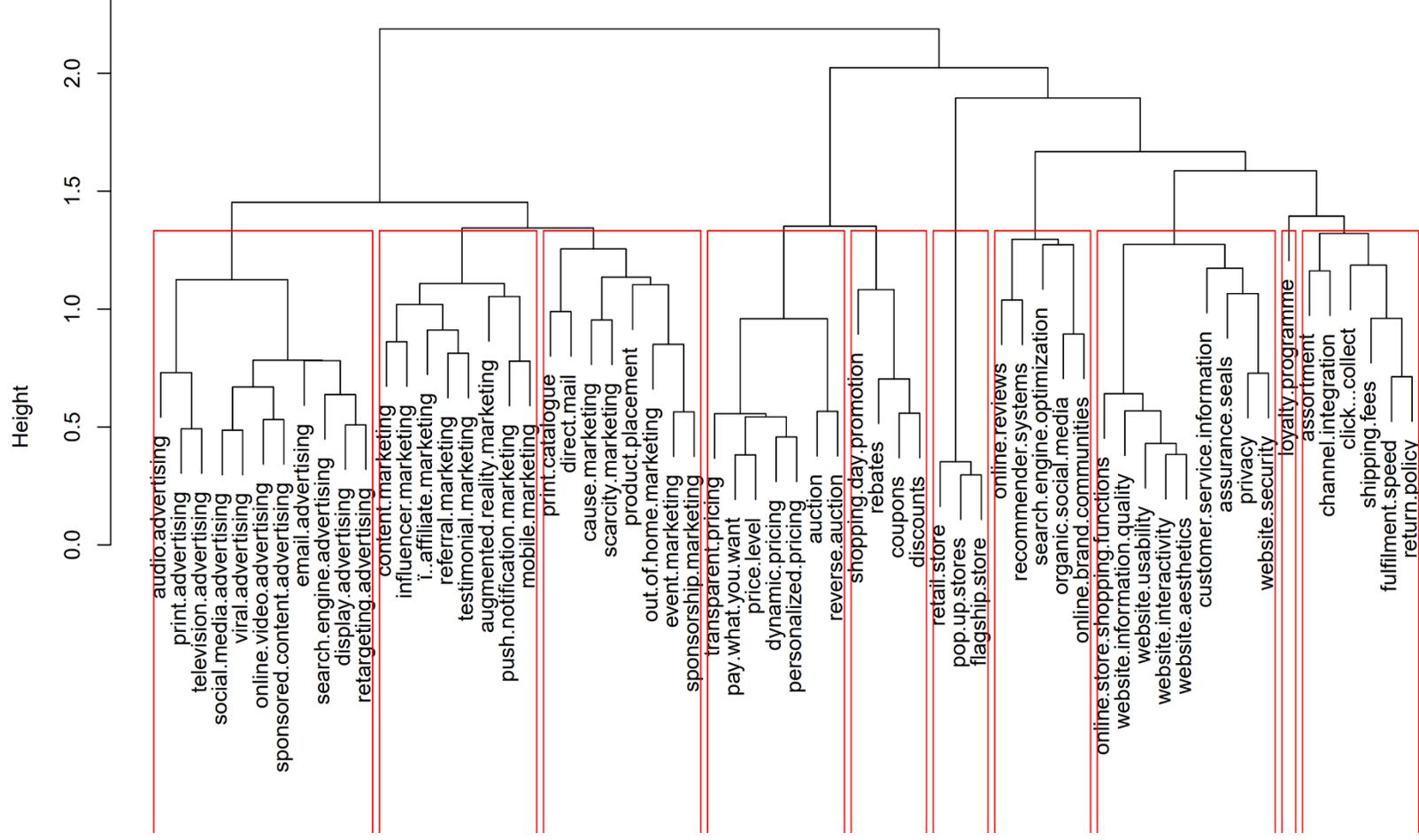
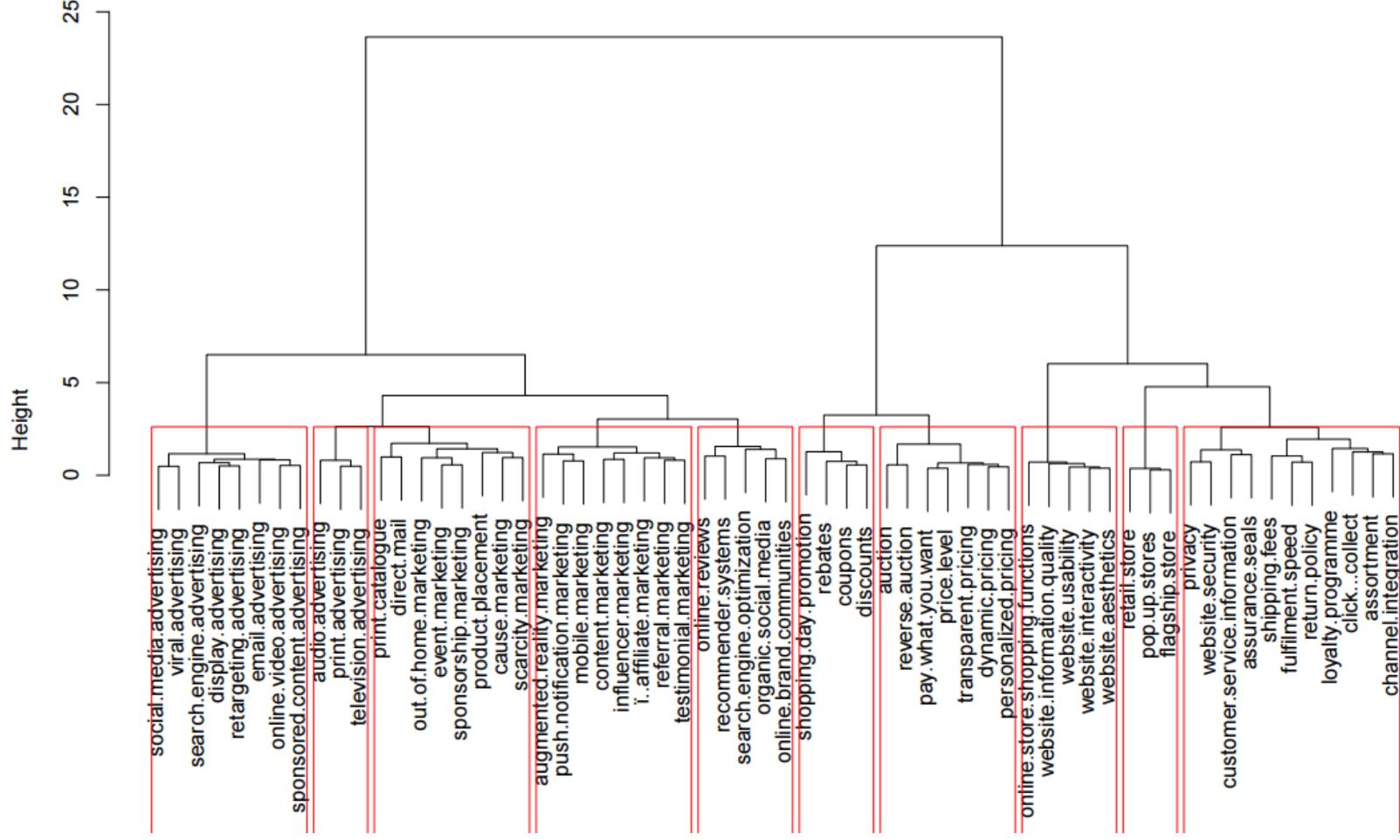


Figure C-4: Hierarchical Cluster Analysis (Ward)



D. ESSAY III

An earlier version of this essay was accepted as:

Rudolph, T, Klink, B. (accepted for presentation). E-Commerce Marketing Mix Effects on Online Patronage: A Meta-Analysis. EMAC Regional Conference 2022, Kaunas, Lithuania.

E-Commerce Marketing Mix Effects on Online Patronage: A Meta-Analysis

Co-Authors

Thomas Rudolph⁽¹⁾

Abstract

E-Commerce has disrupted consumer shopping habits globally. Synchronously, leaps in marketing technology multiplied the range of marketing tools available to e-tailers. However, the comparative effectiveness of e-commerce marketing activities unfortunately remains elusive – despite a wealth of research on the matter. In response to this void, we meta-analytically investigate the effect of 62 marketing tools, clustered in 10 e-commerce mix dimensions, on online patronage. Our meta-analytical review synthesizes 658 distinct datasets from 602 data sources, yielding 1'951 individual bivariate effect sizes based on 17'204'960 observations. Our results offer substantial insights for e-commerce marketing practice pertaining to the effectiveness of marketing tools and marketing budget allocation decision-making. To the research community, we provide a comprehensive review of the current status-quo of online patronage research, a quantitative synthesis of the cumulative evidence, and point toward potentially fruitful avenues for further research.

⁽¹⁾ Thomas Rudolph is Professor of Marketing and International Retail Management, Institute of Retail Management, University of St.Gallen, Switzerland (thomas.rudolph@unisg.ch).

1. Introduction

E-Commerce has become a dominating market force worldwide at extraordinary speed. Global online retail sales amounted to 4938 billion US-\$ in 2021, which is equivalent to 19% of global total retail sales, and market experts project continuing growth for the coming years (Cramer-Flood, 2022). Internet-based technologies not only transformed shopping behavior and habits; they also gave rise to a wealth of new marketing opportunities. The number of marketing tools multiplied rapidly over the last years and continues to grow dynamically (Kannan, Reinartz, & Verhoef, 2016). Marketing activities such as influencer marketing, social media advertising, or push notification marketing are examples of relatively recent developments that quickly gained in relevance. Internet marketing in general matured rapidly, and nowadays, many e-commerce and retail businesses invest the largest share of marketing budgets in digital marketing activities (CommerceNext, 2020).

E-Commerce marketing executives find themselves at the intersection of these ongoing disruptions (Ailawadi & Farris, 2017). In a highly dynamic and competitive environment, they face the critical challenge of acquiring and retaining a valuable customer base. For this, the primary tool set for online retailers is the e-commerce marketing mix, the combined sum of all employed marketing activities. However, e-commerce marketers face the conundrum of sheer endless marketing options but highly limited budgets. In consequence, they need to invest and allocate budgets as effectively as possible. Evidence on marketing effectiveness can greatly inform such marketing investment and allocation decisions (Kireyev, Pauwels, & Gupta, 2016). Especially in the pre-implementation phase, reliable information on the effectiveness of marketing tools can have a significant impact on the success of marketing tool implementation. Yet, in practice, implementation decisions are frequently taken instinctively or by trial-and-error. Such a satisficing mindset risks suboptimal decisions due to the influence of biases, and since performance measurement can only commence after substantial financial resources have been invested. This in turn can entice holding on to suboptimal decisions, e.g. due to the sunk-cost fallacy (Parayre, 1995), negatively impacting firm performance.

Marketing budgets are increasingly allocated based on attribution modeling. Such models are typically restricted to digital marketing, making exclusively relying on this approach problematic because it disregards a wide range of potentially more viable alternatives. However, CMOs are increasingly expected to demonstrate marketing effectiveness, motivating them to adopt this seemingly facts-based approach (Mintz &

Currim, 2013). Furthermore, because marketing effectiveness measurement presents a non-trivial challenge, last-click attribution is still widely proliferated in practice, despite its proven shortcomings (Berman, 2018). Moreover, difficulty in generating effectiveness data in traditional marketing channels often leads to piecemeal performance measurement (Kannan et al., 2016). Cross-over and carry-over effects are frequently neglected, as they complicate measurement, and hence marketing channel effects are regularly unfairly attributed (Danaher & van Heerde, 2018). In consequence, marketing activities that stimulate beneficial outcomes gradually over time are underestimated in their effectiveness, and at risk of being disregarded. Likewise, synergies among marketing tools as well as negative interaction effects are only seldom considered in attribution efforts (Kireyev et al., 2016). In sum, these challenges and issues lead to an incomplete picture of marketing effectiveness in online retailing in praxis and research, despite a wealth of empirical evidence.

Against this background, comprehensive evidence on comparative marketing tool effectiveness in e-commerce promises to offer much-needed guidance to practice as well as significant contributions to theory. We address this need by meta-analytically integrating and synthesizing the current evidence on e-commerce mix effects on online patronage. Online patronage encompasses the key outcomes: customer satisfaction, customer purchase intention and -behavior, as well as word-of-mouth (Rudolph & Klink, 2021). Our results provide a well-grounded understanding of the comparative effectiveness of marketing tools in e-commerce, a comprehensive assessment on the state of research, and a strong foundation for future theoretical and empirical research. We moreover resolve inconsistencies across studies, highlight gaps in the literature, and suggest future research directions.

2. Research Motivation and Background

Numerous studies have investigated marketing effects on strategic outcomes. However, comparatively few have considered multiple marketing tools or outcome variables simultaneously. Attribution literature represents a notable exception, as it seeks to isolate the individual contribution of marketing channels to overall marketing success (Kireyev et al., 2016). Attribution is widely regarded a fundamental challenge within digital marketing (Anderl, Becker, von Wangenheim, & Schumann, 2016; Kannan et al., 2016), as fair attribution has become ever complex due to the multiplication of touchpoints (Anderl, Schumann, & Kunz, 2016; Swaminathan, Sorescu, Steenkamp, O'Guinn, & Schmitt, 2020). Researchers have addressed this issue

in sophisticated clickstream studies (Anderl, Schumann, et al., 2016; Becker, Linzmajer, & von Wangenheim, 2017), tracking consumer behavior across various digital touchpoints on the path to purchase to shed light onto the relative contribution of each. However, only few attribution studies considered the e-commerce context and most primarily consider digital channels, since these readily provide necessary metrics and data. Moreover, there are caveats to this approach. Temporal spillover effects in advertising regularly result in misattribution (Anderl, Becker, et al., 2016). Interaction effects and interdependencies between instruments hamper fair assessment of effectiveness (Naik, Raman, & Winer, 2005; Dost, Phieler, Haenlein, & Libai, 2019). The relevance and comparative effectiveness of traditional marketing tools in e-commerce therefore remain open questions. Interpretation of the cumulative evidence is further hampered by the great diversity of methodological approaches because findings are not readily comparable to previous research. Therefore, despite its merits, attribution literature cannot offer implications beyond digital marketing, and falls short in providing the necessary scope of insight required by e-commerce marketing executives.

The e-commerce mix comprises some relationships closely related to e-service quality. This stream of literature therefore provides relevant evidence regarding some e-commerce mix dimensions (Davari, Iyer, & Rokonuzzaman, 2016; Rita, Oliveira, & Farisa, 2019). Blut, Chowdhry, Mittal, and Brock (2015) summarized and meta-analytically investigated effects of service quality antecedents on satisfaction, purchase intention and overall e-service quality. They considered the influence of website, order fulfillment, customer service, and security on downstream consequences. Strong associations with overall perceived service quality were found for all investigated relationships, which in turn led to customer satisfaction and purchase intention. However, since this stream of literature is concerned with service quality in the online context, it neglects the wide range of additional marketing levers influencing consumer behavior in online retailing.

Finally, the sparse online patronage literature provides relevant, yet limited insight pertaining to our research question. Melis, Campo, Breugelmans, and Lamey (2015) identified and investigated drivers of online store choice, and their change in relevance over the course of a customer relationship. They found that consumers typically chose their customary grocery retailer's online store when starting to shop for groceries online, and that this relationship was enhanced by higher degrees of channel integration. With increasing experience, however, assortment size became more relevant in determining online retailer choice. Counter-intuitively, they found no influence of price on online shop choice, giving reason to suspect that product category characteristics might

moderate marketing tool effects on online patronage. Since the authors only considered a very limited number of marketing tools in a specific context, the picture remains incomplete vis-à-vis the full range of marketing tools, online retailer characteristics, and product category influences. Other seemingly congeneric studies are unfortunately equally uninformative because they were concerned with risk-patronage effects or investigated the influence of marketing tools on product brand share in physical retailing (Forsythe & Shi, 2003; Jindal, Zhu, Chintagunta, & Dhar, 2020).

Given widely heterogeneous and partly inconsistent results across individual studies, an investigation into potential contextual reasons for such differences promises much-needed clarification. One example of such inconsistency is the influence of retail store openings on online sales. While some studies found store openings to cannibalize online sales in the affected area, others found beneficial effects, proposing a billboard effect of physical retail stores (Avery, Steenburgh, Deighton, & Caravella, 2012).

Previous research successfully employed meta analytical approaches to provide answers to the question of advertising effectiveness (Eisend & Tarrahi, 2016), underpinning the suitability of this approach. Likewise, comprehensive meta-studies have shed light on marketing mix effects on retail patronage in physical retailing (Pan & Zinkhan, 2006; Blut et al., 2018). We take inspiration from the approach of these studies to investigate marketing tool effects on online patronage. As both Davari et al. (2016) and Blut et al. (2018) point out, marketing stimuli effects on online patronage have only received limited scholarly attention so far. To the best of our knowledge, so far no study investigated a wide range of marketing tool effects on online patronage simultaneously, as Table D-1 showcases. A comparative assessment of marketing tool effectiveness in e-commerce therefore promises to yield crucial insights for practice and theory alike (Hulland & Houston, 2020).

In the following, we first develop our hypothesis and outline our meta-analytical framework. Then, we transparently report how we obtained and screened relevant datasets, before detailing the how effect sizes were extracted and, if necessary, converted, and subsequently adjusted for reliability. We then describe the specification of our meta-analytical models, before moving on to present our results. This article concludes by discussing the findings and outlining avenues for future research as well as managerial implications.

Table D-1: Overview of Congeneric Patronage Research

Article	Outline	Method(s)	Gap
Forsythe & Shi (2003)	Examined the relationship between types of risk associated with Internet shopping and online patronage behaviors of internet shoppers.	Multiple Regression	<ul style="list-style-type: none"> • Omitted marketing tool effects on online patronage variables
Pan & Zinkhan (2006)	Investigated the determinants of retail patronage for bricks-and-mortar retailers.	Meta-Analysis	<ul style="list-style-type: none"> • Considered only a few selected retail-mix variables • Neglects the e-commerce context
Ganesh et al. (2010)	Developed online shopping motivations and e-store attribute importance measures to identify online shopper typologies.	Exploratory Factor Analysis Confirmatory Factor Analysis Cluster Analysis	<ul style="list-style-type: none"> • Omitted marketing tool effects on online patronage variables
Blut et al. (2015)	Studied the impact of e-service quality on customer satisfaction, repurchase intentions, and word-of-mouth.	Meta-Analysis	<ul style="list-style-type: none"> • Omitted marketing tool effects on online patronage variables
Melis et al. (2015)	Identified drivers of online store choice and explored if and how these drivers change when multi-channel shoppers gain experience.	Multinomial Logit Model	<ul style="list-style-type: none"> • Considered only assortment and price as marketing tool variables.
Davari et al. (2016)	Identified the antecedents of online retailers' service quality and their effect on online patronage behavior.	PLS-SEM	<ul style="list-style-type: none"> • Not concerned with marketing tool effects on online patronage
Blut et al. (2018)	Investigated retail mix effects on retail patronage for bricks-and-mortar retailers.	Meta-Analysis	<ul style="list-style-type: none"> • Omitted the e-commerce context
Rita et al. (2019)	Studied e-service quality impact on customer satisfaction, customer trust, and customer behavior.	PLS-SEM	<ul style="list-style-type: none"> • Omitted marketing tool effects on online patronage variables
Jindal et al. (2020)	Examined how marketing-mix variables differentially affect brand shares at different bricks-and-mortar formats.	Cluster Analysis	<ul style="list-style-type: none"> • Omitted the e-commerce context • Dependent variable: Brand shares not online patronage

3. Conceptual Model and Hypotheses

The e-commerce mix framework provides the conceptual foundation of this study. We investigate the effects of 62 marketing tools clustered in ten marketing mix dimensions on the dependent online patronage constructs. Since marketing activities aim to provoke advantageous consumer responses, we propose:

H₁: (Each of 62) e-commerce marketing tools positively affect online patronage.

The large heterogeneity in the results of previous online patronage and e-commerce marketing effectiveness research may be due to several contextual moderators. E-commerce and e-business models have evolved over the years. Today, e-tailers are spread along the spectrum of pure-online e-commerce and omnichannel retailing. Some even exclusively sell via smartphone applications. Drawing on psychological distance theory (Trope & Liberman, 2010), we propose that the tangibility of an e-tailer influences the effectiveness of e-commerce marketing:

H₂: E-Tailer type (online pure play vs. mobile shopping app vs. multichannel vs. omnichannel retailer) moderates the strength of the relationship between e-commerce marketing tool usage and online patronage.

Previous research on e-service quality and retail patronage found moderating country effects on patronage, through culture and retail environment characteristics. Especially the cultural dimension of uncertainty avoidance and masculinity-femininity were shown to influence the relevance and impact on online patronage and service quality (Blut et al., 2015; Blut, Teller, & Floh, 2018). Since our research is somewhat congeneric in character, we hypothesize:

H₃: The country context moderates the strength of the relationship between e-commerce marketing tool usage and online patronage.

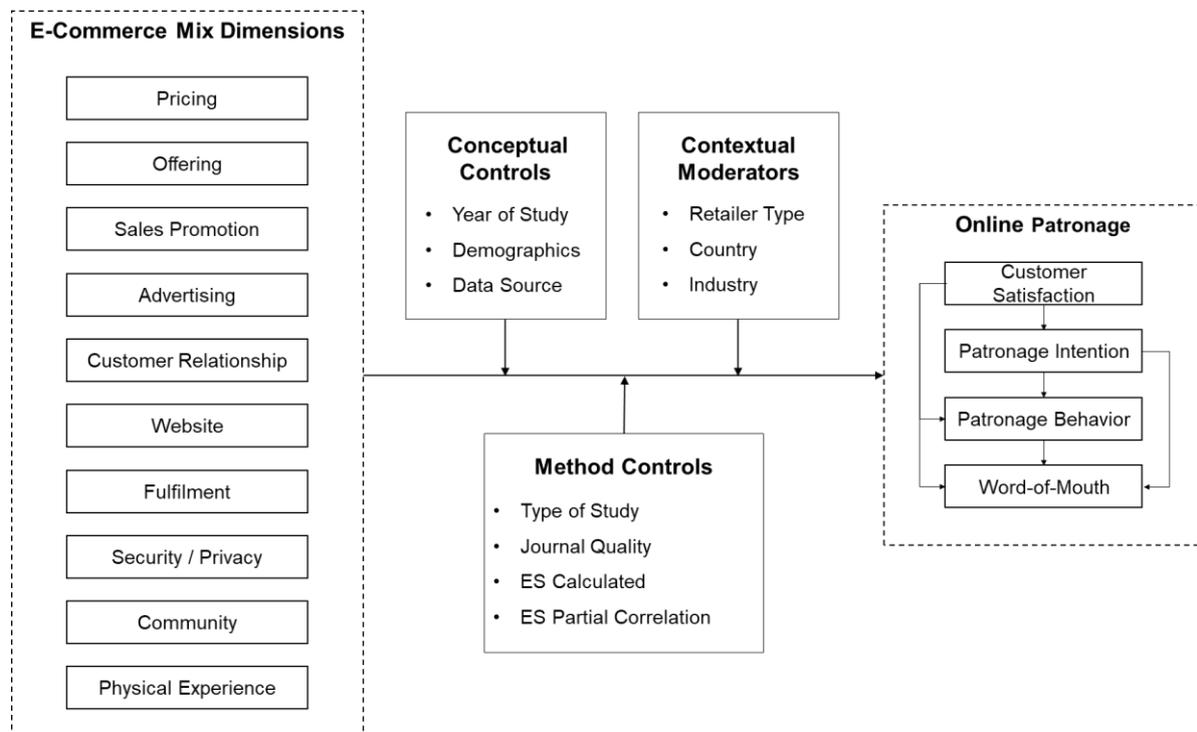
The variety of products and services sold via e-commerce is virtually unlimited. A large body of literature suggests differences due to hedonic and utilitarian consumption motivations, the degree of involvement and risk perception, and need for information (Mallapragada, Chandukala, & Liu, 2016). Thus:

H₄: The product context moderates the strength of the relationship between e-commerce marketing tool usage and online patronage.

Additionally, we include several conceptual controls. Since e-commerce has matured quickly over recent years, we investigate whether relationships differ over time.

As consumers gained experience with conducting various forms of business transactions via the internet, the strength of relationships linked to trust, for example, might have decreased in comparison to early phases of online commerce. Similarly, certain relationships might be connected to openness for innovation. As younger generations are typically more open toward new technology, we control for studies that drew on a student sample. This simultaneously allows assessing the external validity of student sample-based findings. Last, we control for the data source and methodological influences. This allows us to inspect whether certain methods or results from doctoral theses and conference papers influence our results. Figure D-1 summarizes our meta-analytical framework.

Figure D-1: Meta-Analytic Framework.



4. Data Gathering

To gather the data for our meta-analytical review, we followed a four-step process of systematic literature search, literature screening, effect size extraction, and (if necessary) effect size conversion. In line with gold-standard recommendations, we preregistered our meta-analytical review on Open Science Framework (OSF) before we conducted our systematic literature search (Liberati et al., 2009; American Psychological Association, 2020). The preregistration has been put under embargo and will be made public the latest this research will be published in a scientific journal.

Systematic Literature Search

In our systematic literature search, we aimed to identify all relevant datasets in the literature, published and unpublished, to avoid selection bias (Eisend & Tarrahi, 2014). To guarantee this, we drew on three principal data sources: (1) database searches, (2) directly contacting researchers, and (3) auxiliary sources, such as references of earlier review papers. For our database searches, we defined all forms of peer-reviewed sources eligible and consequently included journal articles, conference submissions, and doctoral thesis in our search. Our inclusion of conference submissions accounts for their relevance as paper outlets in the information systems domain.

We extracted keywords from a comprehensive literature database from an earlier research project on online patronage. The database consisted of 198 papers. We used VOSviewer and Endnote software to extract keywords from the title, abstract, and keyword sections of these articles. After stemming and applying wildcard operators, we were left with 139 marketing tool phrases, 10 online patronage phrases, and five context phrases. We used these to conduct literature searches on four search systems: ESBCO, Web of Science, ProQuest, and lens.org. In doing so, we followed the recommendations by Gusenbauer and Haddaway (2019, except lens.org).

To further avoid selection bias and to minimize the risk of potential publication bias, we approached the editorial team and reviewers of the twenty most impactful marketing journals (according to h5 index). In total, we sent 1'121 emails in January 2022 asking for any unpublished empirical studies, such as working papers, consulting projects, rejected articles or abandoned research projects (e.g., due to null results). We received three additional manuscripts and included them in our database.

Table D-2: Overview of Database Search

Search Systems	ESCBO, Web of Science, ProQuest, Lens.org
Keywords	<ul style="list-style-type: none"> • 139 IV phrases • 10 DV phrases • 5 context phrases <p>≈ 6950 keyword combinations</p>
Searches	<p>240 individual searches using 60 search strings (using wildcards and booleans) in four search systems</p> <p><i>Example search string: assortment AND “online patronage” AND e?tail*</i></p>
Search Fields	Title, Abstract, Keywords, “Search string anywhere except full text” (ProQuest)
Timeframe	1994 - 2021

In total, we obtained 26’477 records through the database searches and 43 records through other sources. After removing duplicates, we retained 15’287 records, which were subsequently screened for eligibility.

Literature Screening

We conducted the literature screening based on predefined eligibility criteria in three rounds. This iterative approach allowed us to assess and refine the suitability of our construct definitions and eligibility criteria. Our research considers online patronage in a business-to-consumer e-commerce context. Correspondingly, we included papers containing empirical datasets pertaining to our focal independent and dependent variables. The level of analysis was defined as the online shop. Moreover, we only included manuscripts in English or German language, to ensure correct coding. We excluded non-primary research, such as review articles or conceptual papers, as well as manuscripts published in predatory journals or by vanity publishers (according to Beall’s list, 2022). The latter was decided for two reasons: Firstly, because we were wary of the risk of falsified results, and, secondly, because we were unable to gain access to these manuscripts in some cases. Additionally, we excluded manuscripts providing insufficient statistical information to extract correlations, containing duplicate datasets (e.g., because they were first reported in a conference submission and subsequently in a journal article), and due to mismatching construct definitions (e.g., measuring privacy and security in a single construct reporting only summary statistics).

In the first and second screening round, we read paper titles and abstracts. In ambiguous cases, we used the full text to decide on eligibility or retained the records in the dataset, if a decision couldn't be made in reasonable time. After the first two rounds, we accessed the full text for the remaining 1'472 articles. We then proceeded to screen the title, abstract and full text for eligibility. Finally, we retained 602 articles for effect size coding and further analysis.

5. Effect Size Coding and Conversion

To facilitate effect size extraction, we developed a coding sheet and a coding book, defining all information to be extracted and its format. To this end, we drew on e-commerce mix framework construct definitions for marketing tools (please refer to Table C-4 for reasons of brevity), our earlier online patronage conceptualization (refer to Essay I), and defined moderators based on theoretical and methodological considerations (refer to Table D-12 in the Appendix).

We conduct our meta-analysis based on Pearson r correlation coefficients, since the majority of datasets in our sample reported correlations or correlation-based effect size measures. We extracted effect size measures, reliability measures of dependent and independent variable scales, sample size, and a range of covariates as controls. In cases where multiple effect sizes were reported for the same dataset, we calculated an average effect size following established precedent (Palmatier, Dant, Grewal, & Evans, 2006). If Pearson r effect size measures were not reported, we extracted alternative effect size measures (such as standardized mean differences or regression beta coefficients) and converted them to Pearson r using established formulae and procedures (Lipsey & Wilson, 2001; Eisend, 2020). We corrected beta coefficients using Petersons and Brown's (2005) approach. Some studies in our dataset used logarithmic transformed data. Since log-transformation skews and inflates correlational measures and hence jeopardizes cross-study comparability, we corrected log transformations adapting established conversion formulae (Souverein, Dullemeijer, vant Veer, & van der Voet, 2012; Rodríguez-Barranco, Tobías, Redondo, Molina-Portillo, & Sánchez, 2017).

A few studies, particularly from the attribution domain, employed probability- and elasticity-based models such as cox-regressions, hazard rates, logit, tobit, and probit models, or sophisticated statistical models on that basis. To reduce selection bias and since these studies were particularly informative due to their integration of a range of marketing tools, we made an effort to integrate effect sizes of these studies. We transformed risk ratios and hazard ratios to odds ratios, adapting VanderWeele (2020).

Probit betas were converted to logit betas using following approximation formula: $1.6\hat{\beta}_{\Phi} \approx \hat{\beta}_L$ (Amemiya, 1981). Logit betas were transformed to odds ratios, before we finally converted odds ratios to Pearson's r (Eisend, 2020). To assess whether these transformations impacted our results, we included a dummy-coded variable indicating transformed effect-sizes in our coding scheme. Studies that did not report the necessary statistical information for conversion or correction were excluded from further synthesis.

In total, we extracted 1951 bivariate effect sizes, of which 683 concerned customer satisfaction, 885 purchase intention, 226 purchase behavior, and 157 word-of-mouth.

6. Meta-Analytical Procedures

We performed our meta-analytical procedures using Fishers z corrected Pearson r correlation coefficients. We adjusted the individual effect sizes for reliability of the independent and dependent variable scales, following best-practice (Schmidt & Hunter, 2015; Eisend, 2020). In cases where no reliability measure was reported, we used the average reliability measure calculated for the specific relationship (Blut et al., 2018).

We specified a random effects model since we had reason to assume high between-study heterogeneity, due to the variety of relationships, methods, measurement approaches, quality of outlets, and modeling approaches present in our dataset. We used a restricted maximum likelihood estimator for τ^2 , the Q profile method for confidence interval of τ^2 and τ , and the Hartung Knapp adjustment for the random effects model. As a robustness check, we replicated our analyses using a fixed-effects model specification.

After having conducted the bivariate meta-analyses, we proceeded to specify a mixed-effects meta-regression model for those relationships that indicated high between-study heterogeneity. We did so since high between study heterogeneity may be either caused by measurement error or due to the influence of moderators, giving grounds for further investigation. To account for both types of explanations, we included the following covariates in our meta-regression model: year of publication, e-tailer type, country, product context, student sample, journal h-index (as proxy for source quality), partial correlation, and a measure of whether we calculated the effect size. We tested these moderators for multi-collinearity using a correlation table and found no reasons for concern (c.f. Table D-13 in Appendix D).

We specified the meta regression model as follows⁸:

$$r_{ij} = \gamma_{00} + \gamma_{01} \cdot (\text{year}_{ij}) + \gamma_{02} \cdot (\text{retailer_type}_{ij}) + \gamma_{03} \cdot (\text{country}_{ij}) + \gamma_{04} \\ \cdot (\text{product_context}_{ij}) + \gamma_{05} \cdot (\text{demographic}_{ij}) + \gamma_{06} \cdot (\text{study_type}_{ij}) \\ + \gamma_{07} \cdot (\text{journal_h_index}_{ij}) + \gamma_{08} \cdot (\text{ES_calculated}_{ij}) + \gamma_{09} \\ \cdot (\text{ES_partial_cor}_{ij}) + \mu_{0j} + \varepsilon_{ij}$$

Where r_{ij} is the i th pooled reliability corrected effect size in the j th data set, describing the relationship between marketing tools and online patronage constructs, γ_{00} is the average effect size controlling for the influence of moderating variables, $\gamma_{0[1;9]}$ the impact of each moderator variable in the model on γ_{00} , μ_{0j} captures the deviation of the average effect size in dataset j from γ_{00} , and ε is the residual error term.

7. Results

Table D-3 summarizes the associations between marketing mix dimensions and satisfaction, purchase intention, purchase behavior, and word-of-mouth. We report the number of correlations (k), the cumulative sample size (N), the average artifact-corrected correlation (r), and the Q-statistic testing for heterogeneity. Detailed tables in the Appendix additionally report standard errors, confidence intervals for r , and fail-safe N , the number of (unpublished) insignificant studies necessary to reduce our observed (significant) result to non-significance.

Before discussing the results, we first establish their robustness and internal validity. We included several methodological moderators and controls in our mixed-effects model, to gauge whether differences in findings can be attributed to, for example, the different research methods or the impact of partial correlations. In addition, we checked the appropriateness of our transformations. The results indicate that effect sizes we calculated using other statistical information had generally no significant influence, confirming the adequacy and quality of our effect size conversions. Similarly, we only find very isolated significant moderations with neglectable magnitude for journal quality. Moreover, the student sample control only moderated the effect size for three relationships: pricing-satisfaction (+), pricing-purchase behavior (+), and website-purchase behavior (-). The affected relationships suggest that these moderations are due to confounds and are not caused by methodological issues. The positive moderation of pricing makes sense, given that younger people have a generally lower income. On the

⁸ Note that retailer type, country, product context, and study type were dummy coded. For brevity, we restrained from including all dummy code moderators separately.

other hand, the higher technological aptness of younger generations might explain the negative moderation of website dimension's impact. Furthermore, we find some negative moderations of partial correlations. The consistent negative direction indicates that, despite our correction, these effect sizes underestimate the true effect size. The affected relationships are therefore comparatively more conservative. Finally, we find isolated significant moderations for datasets drawn from conference submissions, and the same regarding data sets using field data. Overall, however, we find no reason for concern regarding the validity of our general results. Should other meta-analyses find similar negative moderations for partial correlations, its correction procedure might need refinement.

In the following, we discuss the big picture our results reveal, and refrain from discussing results of individual studies due to the large number of included investigations. Starting with an overview of the available evidence, we uncover significant knowledge gaps for all outcomes. The results of our synthesis therefore warrant appropriate caution, since our picture of the comparative effectiveness of marketing mix dimensions is incomplete in varying degrees. This highlights an urgent need for further research, particularly in regard to these blind spots.

In terms of customer satisfaction, we currently know little about the effectiveness of relationships outside the scope of classical e-service quality literature. While the dearth of research on advertising effects on satisfaction is somewhat comprehensible, the contrary applies to the dimensions physical experience, customer relationship, and sales promotion. All of those arguably offer important levers for customer satisfaction and are of special interest to the growing number of omnichannel retailers. The marketing tool – purchase intention relationship is the currently most comprehensively understood. However, we surprisingly find only limited available evidence on sales promotion and customer relationship in this context. Our understanding regarding the influences of security and privacy, community, physical experience, and customer relationship marketing tools on purchase behavior is significantly limited. Since behavioral measures are not affected by intention-behavior gap bias, they arguably offer superior external validity and should therefore receive special attention in future investigations. How marketing tools compare in terms of word-of-mouth is currently least well understood. We only find sufficient evidence regarding the website dimension and price perceptions. Further research on WOM in the context of the e-commerce marketing mix is hence direly needed because word-of-mouth is a particularly beneficial outcome, and online retailers often only selectively collect such data themselves.

It is important to note that we found high degrees of heterogeneity for all investigated relationships, evident by the highly significant Q-test values. The unanimously significant Q-test values indicate that our results, although highly robust in many cases, are influenced by external factors (moderators). The picture regarding the effectiveness of marketing tools might therefore differ substantially for individual e-commerce firms, depending on their unique context. In addition, it confirms the suitability of the random effects model specification. Next, we therefore discuss our general findings on marketing effectiveness, before investigating whether and how context factors influence the strength of these relationships.

Table D-3: E-Commerce Mix Dimension Effects on Online Patronage

Dimension	Customer Satisfaction				Purchase Intention			
	<i>k</i>	<i>N</i>	<i>r</i>	<i>Q</i>	<i>k</i>	<i>N</i>	<i>r</i>	<i>Q</i>
Website	406	195026	0.56***	38903.655***	458	200791	0.5***	26980.136***
Pricing	57	51159	0.525***	6720.942***	53	23889	0.563***	4589.62***
Fulfillment	85	31633	0.512***	12718.751***	48	22556	0.471***	3046.458***
Offering	42	20894	0.464***	2215.795***	63	44018	0.501***	5366.198***
Security / Privacy	79	25119	0.439***	1920.944***	58	20430	0.43***	1672.48ns
Sales Promotion	4	1128	0.324†	57.664***	6	2304	0.225*	131.168***
Community	5	1403	0.693*	252.725***	26	8142	0.5***	768.451***
Advertising	--	--	--	--	18	5032	0.651**	3557.567***
Physical Experience	2	403	0.158ns	96.321***	13	3120	0.31**	217.764***
Customer Relationship	4	5637	0.258†	109.235***	4	1128	0.324†	57.664***
Dimension	Purchase Behavior				Word-of-Mouth			
	<i>k</i>	<i>N</i>	<i>r</i>	<i>Q</i>	<i>k</i>	<i>N</i>	<i>r</i>	<i>Q</i>
Website	80	9127530	0.273***	31669.099***	55	32761	0.515***	2591.295***
Pricing	25	5895138	0.194**	34902.111***	8	10014	0.505***	110.241***
Fulfillment	23	2014180	0.178**	3771.762***	8	10552	0.53***	127.275***
Offering	7	152142	0.15*	541.363***	5	2233	0.472*	116.128***
Security / Privacy	4	8669	0.562†	406.394***	12	4339	0.521***	167.631***
Sales Promotion	18	4060672	0.212†	2187741.366***	2	804	0.054ns	4.279*
Community	4	30869	0.233*	21.73***	6	9358	0.449*	174.371***
Advertising	47	29033299	0.215*	36964853.222***	--	--	--	--
Physical Experience	--	--	--	--	--	--	--	--
Customer Relationship	--	--	--	--	2	383	0.196ns	2.904†

Note: †p < .10, *p < .05, **p < .01, ***p < .001

We only report effect sizes where at least two independent studies were available.

We find unambiguously positive relationships between marketing tools and outcomes, supporting H_1 . The only exception to this general finding concerns price level, measured in absolute value, which expectedly negatively impacts purchase behavior ($r = -0.17$, $p < .01$). Since some studies measured price in absolute terms and many others assessed some form of price perception, we coded both forms of measurement separately. Favorable price perception was found to be positively related to outcomes.

Considering the relationship of marketing mix dimensions and customer satisfaction, the dimensions community ($r = 0.69$, $p < .05$), website ($r = 0.56$, $p < .001$), and pricing ($r = 0.53$, $p < .001$) were found to have the greatest impact. The great influence of the community dimension is an intriguing finding, considering the limited scholarly attention this relationship has received so far. The fail-safe N statistic nonetheless confirms the robustness of this result, although further research seems necessary to confirm the strength of this relationship. Website's relevance, on the other hand, affirms the continued attention of e-service quality literature. Based on our results, online retailers should ensure appropriate attention to the quality of product information, the aesthetic appeal, and usability of their online shops to increase satisfaction. Price is colloquially said to be the decisive factor in online retailing. Our finding confirms its high relevance in terms of satisfaction, but also highlights how online retailers offering superior service can compensate somewhat higher prices.

We find advertising ($r = 0.65$, $p < .01$) to be most effective in stimulating purchase intentions in e-commerce on the instrument level. However, the available evidence is too fragmented to derive useful implications for the marketing tool level, underlining the necessity for further research on advertising effects in e-commerce. Pricing greatly influences purchase intentions ($r = 0.56$, $p < .001$), with price perception among the marketing tools with the greatest effect. Note, that this effect size is inflated since we differentiated between price perception and price level (which shows a significantly negative effect). Moreover, offering-related marketing tools unsurprisingly strongly affect purchase intentions ($r = 0.5$, $p < .001$), being equally effective as website dimension ($r = 0.5$, $p < .001$) in eliciting purchase intentions.

Our results regarding purchase behavior are especially insightful. We find website ($r = 0.27$, $p < .001$), community ($r = 0.23$, $p < .05$), advertising ($r = 0.22$, $p < .05$) the central levers driving online purchases. Results concerning the influence of pricing are inconclusive, contrary to expectation. While higher prices ($r = -0.17$, $p < .01$) expectedly negatively influences purchase behavior, price perceptions intriguingly had a strong but

insignificant effect on purchase behavior ($r = 0.35$, ns.), indicating the need for further evidence to gauge the comparative influence. Another intriguing finding is the borderline significant, yet strong influence, of privacy and security on purchase behavior ($r = 0.56$, $p < .1$), which is primarily driven by privacy. However, this effect is based on sparse evidence, necessitating further verification.

In terms of WOM, we find the largest effects for service-related marketing mix dimensions. Fulfillment ($r = 0.53$, $p < .001$), security & privacy (2) ($r = 0.52$, $p < .001$), and website ($r = 0.52$, $p < .001$) were found to be almost equally important for generating word-of-mouth. E-Service quality appears therefore especially important for instilling beneficial consumer referrals. However, this is a very tentative finding since the available evidence is overall very scarce in comparison to the other outcomes.

As Table D-4 illustrates, we find strong relationships among online patronage outcomes in line with our conceptual framework. Customer satisfaction strongly drives purchase intentions ($r = 0.8$, $p < .001$), highlighting how e-tailers may utilize offering a strong customer community and e-service quality to incite future purchases. This is underscored by the strength of the relationship between satisfaction and purchase behavior ($r = 0.56$, $p < .001$), which is stronger than the link between purchase intentions and purchase behavior ($r = 0.49$, $p < .01$). Catering to the satisfaction of the existing customer base might therefore not only be more economical than focusing on acquiring new customers, but also is robustly more effective. WOM is similarly strongly stimulated by satisfaction ($r = 0.82$, $p < .001$), and purchase intention ($r = 0.87$, $p < .001$), suggesting that conation and affect drive WOM more strongly than previous behavior alone ($r = 0.61$, $p < .01$).

Table D-4: Relationships Among Dependent Variables

	k	N	r	SE r	95%-CI	Q	fail-safe N
SAT → PI	135	52602	0.801***	0.071	[0.745; 0.846]	43734.052***	137251
SAT → PB	11	30576	0.562***	0.118	[0.356; 0.716]	871.566***	272
PI → PB	7	1905	0.494**	0.126	[0.227; 0.692]	172.477***	82
SAT → WOM	28	17928	0.815***	0.147	[0.685; 0.895]	6494.76***	7140
PI → WOM	23	13962	0.866***	0.228	[0.684; 0.947]	11433.495***	5953
PB → WOM	7	2346	0.611**	0.141	[0.347; 0.785]	237.26***	160

As previously discussed, all investigated relationships between marketing tools and online patronage were found to be subject to substantial heterogeneity. We therefore now turn to the results of our meta-regression, to assess whether and how contextual factors are responsible for the differences between the findings of individual studies. Table D-5 summarizes the results of our meta-regression pertaining to $H_2 - H_4$. We could perform meta-regressions only for those relationships, where the available evidence provided a sufficient number of effect sizes and differing contexts across individual studies. Evidence of moderating effects may moreover spur conceptual progress, since identifying underlying mechanisms driving these changes enhances our understanding of marketing tool effects.

Drawing on construal level theory, we hypothesized that marketing tool effects might differ between types of online retailer. We only find a single significantly negative moderation for the website – customer satisfaction relationship. This finding makes intuitive sense, as it indicates that e-service quality is of higher relevance for pure online players, when compared to retailers additionally operating physical stores or solely operating via an app. The borderline significant negative moderation of the association between website and purchase intention further corroborates this result. However, all other investigated relationships did not show significant differences between online retailer types. We therefore generally reject H_2 .

In contrast, we find partial support for H_3 , as we find the country context influencing many of our focal relationships. Since the direction of the moderations vary between countries, we report whether we found significant effects. Considering customer satisfaction first, we report prevalent significant moderations for website, pricing, and offering. Based on this result, country culture widely either attenuates or enhances these relationships. Furthermore, we reveal moderating effects for fulfillment and security & privacy in single countries. Regarding purchase intentions, we show a significant moderation for the website dimension, and isolated moderations for the pricing, offering and security & privacy dimensions. The purchase intention – fulfillment relationship moderation was insignificant, suggesting that its effectiveness is robust across cultural contexts. Country context moreover widely influences the effectiveness of pricing on purchase behavior, and moderates the website, fulfillment, and sales promotion dimensions in singular countries. Conversely, we found advertising's effectiveness unaffected by country context. For the two WOM related relationships we could test with the available data, we found both dimensions, website, and security & privacy, to be robust to country effects.

Table D-5: Overview of Meta-Regression Results

Dimension	Customer Satisfaction				Purchase Intention			
	Type	Country	Product	Year	Type	Country	Product	Year
Website	▼	✓	×	×	(▼)	✓	✓	×
Pricing	×	✓	(✓)	▲	×	(✓)	×	×
Fulfillment	×	(✓)	(✓)	▲	×	×	×	×
Offering	×	✓	×	×	×	(✓)	(✓)	▲
Security / Privacy	×	(✓)	×	×	×	(✓)	(✓)	(▲)
Sales Promotion	--	--	--	--	--	--	--	--
Community	--	--	--	--	--	--	--	--
Advertising	--	--	--	--	--	--	--	--
Physical Experience	--	--	--	--	--	--	--	--
Customer Relationship	--	--	--	--	--	--	--	--

Dimension	Purchase Behavior				Word-of-Mouth			
	Type	Country	Product	Year	Type	Country	Product	Year
Website	×	(✓)	✓	×	--	×	×	×
Pricing	×	✓	✓	×	--	--	--	--
Fulfillment	--	(✓)	(✓)	▼	--	--	--	--
Offering	--	--	--	--	--	--	--	--
Security / Privacy	--	--	--	--	--	×	×	×
Sales Promotion	--	(✓)	(✓)	(▼)	--	--	--	--
Community	--	--	--	--	--	--	--	--
Advertising	--	×	×	○	--	--	--	--
Physical Experience	--	--	--	--	--	--	--	--
Customer Relationship	--	--	--	--	--	--	--	--

Note: ✓ significant, × insignificant, -- not enough data, ▲ positive moderation, ▼ negative moderation
 Parentheses indicate borderline significant or isolated (for country, product context) significant effects.

Similarly, our results partially support H_4 , which proposed product context to moderate the relationship between marketing tools and online patronage. Pricing and fulfillment are moderated in singular product contexts, while website, offering, and privacy & security show no moderation effects. Regarding purchase intentions, prevalent moderations exist for the website dimensions, and isolated moderations are significant for offering and privacy & security. Pricing and fulfillment dimension moderations are insignificant, and hence unaffected by product context. Comparing this result to purchase behavior yields intriguing insights. Website is likewise subject to a widespread moderating effect of product context. However, and in contrast to the purchase intention result, we find widespread product context moderations for the pricing dimension. Sales promotion is moderated in single product contexts, while advertising effects are robust across product contexts. Finally, we find no significant moderations for website and security & privacy on WOM.

Is the strength of our investigated relationships robust over time? Since a sizeable share of the currently available evidence has been generated in the early days of electronic commerce, it is important to assess whether relationship strength changed as e-commerce matured. It clarifies whether early findings apply today. We find time to positively moderate the association of pricing and fulfillment, and satisfaction. This indicates that customers grew more demanding in terms of price and fulfillment performance as e-commerce matured. Conversely, we show that the effectiveness of website, offering, and privacy and security remained stable. Furthermore, offering's impact on purchase intentions increased over time. The borderline significant positive moderation of privacy & security could indicate that the relevance of privacy and security related tools marginally increased over time. The effectiveness of website, pricing, and fulfillment, on the other hand, remained stable. Furthermore, we show fulfillment's effect on purchase behavior to decrease over time. This might be due to a generally improved level of fulfillment quality in online retailing, reducing its potential for differentiation. Additionally, we find a borderline significant negative moderation for sales promotion. Conversely, the effectiveness of the website, pricing, and advertising dimensions in provoking purchase behavior remained stable over time. Last, the impact of website and security & privacy on WOM is found to be constant over time.

8. Discussion

This research is the first to comprehensively investigate marketing tool effects on online patronage. Its results contribute substantially to our understanding of e-tailer-controlled antecedents of online patronage, by synthesizing, extending, and contextualizing previous findings. It confirms prior results on the decisive role of assortment on purchase intentions in e-commerce, reported by Melis, Campo, Breugelmans, and Lamey (2015). However, results simultaneously show that this relationship is substantially attenuated when considering purchase behavior. Moreover, in contrast to these prior findings, we find price-related stimuli to affect online patronage generally greatly. At the same time, we confirm the suspected moderating effect of product category for certain relationships, offering a plausible explanation for the differences in findings. The findings furthermore resolve previously inconsistent findings, demonstrating the significantly positive contribution of retail store presence to online purchase intentions ($r = 0.31$, $p < 0.01$), although highlighting the need for further research in the context of the remaining online patronage variables.

A few results merit further discussion. For one, the strikingly strong effects of the community dimension on online patronage are in stark contrast to the performance marketing mindset and resulting short-termism prevalent in e-commerce marketing. Based on our results, nourishing a vibrant customer community, and engaging with it through organic social media and influencer marketing, can have substantial impact on online patronage. The sparsity of evidence on this relationship is hence even more unfortunate, and further research is urgently needed to corroborate this finding. Furthermore, the low effectiveness of sales promotion might seem counter-intuitive at first glance. On closer inspection, however, it becomes evident that this result is probably due to two reasons: The very scarce empirical evidence for all outcomes except purchase behavior, and predominantly self-reported measurement. The importance indicated by purchase behavior seems therefore a more realistic representation of the true comparative importance of sales promotion activities in terms of generating online sales.

Theoretical Implications

By synthesizing the currently available empirical evidence scattered across domains, this research integrates and substantially extends previous findings. We integrate the empirical evidence of online patronage, e-service quality, marketing effectiveness, and attribution literatures. In doing so, this research contributes to each of these literatures. It is the first large-scale study regarding marketing tool effects on

online patronage. This study moreover contributes to e-service quality literature by demonstrating the great importance of the e-commerce website (and its quality), in comparison to other e-commerce mix instruments across online patronage outcomes. Furthermore, it enhances the external validity of e-service quality by adding evidence regarding purchase behavior to the picture. Regarding marketing effectiveness and attribution literatures, this research summarizes the current evidence in the e-commerce context, offers crucial insights beyond the digital marketing context, and identifies fruitful avenues for future research.

Table D-6 provides an overview of open questions, issues, and theoretical implications. Our systematic review uncovered substantial gaps in our understanding of marketing effectiveness in online retailing. These gaps in particular concern marketing tool effects on WOM, the e-commerce marketing mix dimensions physical experience and customer relationship across all outcome variables, and marketing tool effects on customer satisfaction outside the scope of e-service quality. Against the backdrop of the high prevalence of physical store concepts in omnichannel retailing and of loyalty programs in general, this result is simultaneously astonishing and inconvenient. Furthermore, we find a widespread neglect of “traditional” marketing tools, colloquially often termed above-the-line marketing, in online patronage research. Reflected by the most prominently investigated marketing tools, online patronage research is hence heavily skewed towards sales activation. Building a strong brand is an equally important strategic marketing aim. The lack of evidence in this regard therefore urgently calls for addressing.

The general difference in effect size valence between purchase intention and purchase behavior outcomes is a pointer towards the relevance of the intention-behavior gap in online patronage research (Sheeran & Webb, 2016). Given that many studies still exclusively employ self-reported intention measures, we are reminded to remain careful to not overestimate true effects based on intentional measures. Effect size valence aside, however, the results appear largely consistent with each other, indicating that conative measurement may indeed be an appropriate proxy if behavioral data is unavailable or unfeasible.

Table D-6: Open Questions, Issues, and Theoretical Implications

Issue	Open Questions and Avenues for Future Research
Under-Researched Marketing Tools	Our systematic synthesis revealed substantial knowledge gaps pertaining to certain marketing tools. We currently know frustratingly little about the online patronage impact and comparative importance of traditional marketing tools (i.e., above-the-line marketing), pricing mechanisms, physical touchpoints, customer relationship activities, and innovative marketing tools (such as AR tools). Future research should strive to include these marketing tools, to provide a more complete picture.
Long-Term Effectiveness	Much of the prior research measured short-term effects of marketing tools on online patronage. The herein presented effect-sizes therefore potentially underestimate total effectiveness, since primary studies widely neglected long-term effects. Future research may therefore use longitudinal designs to investigate marketing effectiveness in e-commerce.
Marketing Tool Synergies	Several previous studies report substantial synergies and interaction effects among marketing tools. Overall marketing effectiveness could hence be increased tremendously by deliberately including synergetic marketing tools in the e-commerce mix. Conversely, tools whose effectiveness is attenuated by simultaneous usage of another marketing tools might incur decreased overall marketing efficiency. Future research should therefore consider these interaction effects.
Context Factors	We found country context and product context to influence the effectiveness of many marketing tools in increasing online patronage. However, considerable variation remained unexplained by our moderation analyses, indicating that other factors, not considered in our model, might influence effectiveness. Researchers might therefore identify and explore additional context factors in future research.
Advertising Messages and Content	Although many studies investigated advertising effects on online patronage outcomes, the role of varying forms of messages and content remain opaque. Previous research on advertising effectiveness conclusively demonstrates significant impact of advertising message and content factors on effectiveness. It appears therefore worthwhile to include advertising message-related variables in future studies.
Brand Marketing	The present research investigated marketing tools' ability to stimulate online patronage. Building a strong brand is a complimentary strategic goal of online retailers. However, there is currently only very limited evidence available pertaining to the effectiveness of e-commerce mix tools with regard to brand marketing. Future research is therefore needed to ascertain these effects, and might explore synergy effects between brand equity and online patronage.

The general consistency of our findings with previous e-service quality research (Blut, Chowdhry, Mittal, & Brock, 2015), verifies the robustness of previous and present efforts. Note that the dimensions of e-service quality only approximately correspond to their counterparts in the e-commerce mix. Nevertheless, when comparing results on the dimension level, we find full consistency regarding the comparative importance of dimensions relating to customer satisfaction. In terms of purchase intentions and WOM, we find a higher comparative importance of the fulfillment dimension. Furthermore, in terms of WOM we find a lower relative importance of the website dimension, although r values of all three dimensions are closely matched. Minor differences are somewhat expected, as we had no intent to replicate previous findings. These slight differences are most likely driven by slightly deviating dimension definitions and differing model specifications.

This research is bound to certain limitations characteristic to the meta-analytical method, offering fruitful avenues for further research. Since meta-analyses retrospectively synthesize the cumulative empirical evidence, they are limited by the scope of previous research. Meta-analyses can therefore only uncover, but not rectify, existing knowledge gaps. Their ability to investigate contextual factors is likewise restricted by the diversity of contexts in prior research. Finally, the present research did not investigate effects simultaneously, for instance by using meta-analytical structural equation models, since inter-correlations were sparse for all relationships not related to e-service quality. Future meta-analyses may be able to draw on a richer dataset, enabling them to investigate marketing tool effects and synergy effects simultaneously.

Managerial Recommendations

We provide an intuitive executive summary of our findings in Table D-7. The numbers indicate the ranked effectiveness of e-commerce mix dimensions, while the symbols represent whether the effectiveness is likely to differ across countries (©) or product contexts (®). E-Commerce marketers intending to increase overall online patronage are well advised to prioritize the e-commerce mix dimensions advertising, website, pricing, and community. Satisfaction is generally most strongly driven by marketing tools related to community and the online shop. Purchase intentions, on the other hand, are most effectively stimulated by advertising and pricing-related marketing levers. However, when considering what levers drive actual purchase behavior, website and community outperform advertising efforts. Finally, word-of-mouth is most effectively provoked by providing a superior customer experience, as indicated by the great effectiveness of fulfillment, security & privacy, and the website.

As previously discussed, these results should be applied very cautiously in praxis, because the current picture remains incomplete and almost all investigated relationships were found to be highly heterogeneous. The hierarchy of these effects might hence differ substantially for specific product contexts or individual e-tailers. Practitioners are therefore advised to acknowledge the evidence on context influences, as indicated in our executive overview, when drawing on our results.

Table D-7: Executive Summary: Ranked Effectiveness of Dimensions

	SAT		PI		PB		WOM	
Website	2	©	4	©©	1	(©)©	3	
Pricing	3	©(©)	2	(©)	4	©©	4	?
Fulfillment	4	(©)(©)	6		5	(©)(©)	1	?
Offering	5	(©)	3	(©)(©)	6	?	5	?
Security / Privacy	6	©	7	(©)(©)	(1)	?	2	?
Sales Promotion	(8)	?	(10)	?	(4)	(©)(©)	(8)	
Community	1	?	4	?	2	?	6	?
Advertising	--	?	1	?	3		--	?
Physical Experience	(9)	?	8	?	--	?	--	?
Customer Relationship	(7)	?	(7)	?	--	?	(7)	?

Note: Ranks in brackets indicate effect size-based positions of insignificant results. These results should be interpreted with great caution but may provide a first indication of their relative effectiveness.

© = Relationship typically influenced by country

© = Relationship typically influenced by product context (industry)

? = Currently unknown whether moderators influence relationship

() = Isolated moderation in some specific context

Nonetheless, our results can serve as a valuable starting point for marketing tool implementation decisions, providing credible effectiveness information before the fact. Likewise, e-commerce executives and managers may apply our findings for e-commerce mix composition and budget allocation decisions. Since relying solely on attribution for media budget allocation has been previously found suboptimal (Danaher & van Heerde, 2018), we recommend following a profit-maximizing approach (Kireyev, Pauwels, & Gupta, 2016). Practitioners may use our effect size estimates and information on marketing tool cost to calculate the marketing return on invest (ROI). Pre-implementation, marketers could draw on expected costs based on industry averages, for example, to derive a measure of anticipated marketing ROI, allowing to compare

this metric to the currently used marketing tools. Post-implementation, this approach can moreover provide a valuable metric for benchmarking purposes, helping to optimize marketing budget allocation.

9. Conclusion

This research integrated and synthesized the current knowledge on e-commerce mix effects on online patronage, offering a comprehensive, and empirically well-grounded overview. For almost all relationships, fail-safe N indicate generalizability of our findings, subject to moderating effects of country and product context in certain cases. This meta-analysis further enhances our understanding of the comparative effectiveness of marketing tools in e-commerce and resolves inconsistencies across studies. Finally, by identifying and highlighting gaps in the literature, suggesting future research directions, it provides a robust foundation for future theoretical and empirical research.

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Appendices

Appendix A: List of Articles Included in the Meta-Analytical Review

Due to the large number of data sources considered in this meta-analysis, the full list of articles included in the synthesis is available for download from the Online Appendix at: https://osf.io/pkfsw/?view_only=2cb5dc37e28844609c33cbb7478c30d9

Appendix B: Full Results Tables

(see next page)

Note: We report relationships only where at least two independent effect sizes have been available.

Table D-8: E-Commerce Mix Effects on Customer Satisfaction

	k	N	r	SE r	95%-CI	Q	fail safe N
Website	406	195026	0.56***	0.028	[0.521; 0.596]	38903.655***	360717
assurance seals	4	1373	0.178ns	0.125	[-0.216; 0.522]	27.058***	0
customer service information	23	11201	0.475**	0.173	[0.153; 0.706]	5507.92***	668
online reviews	9	3409	0.479*	0.164	[0.14; 0.718]	365.22***	107
online store shopping functions	16	9081	0.494***	0.113	[0.29; 0.655]	1284.901***	469
recommender systems	23	7819	0.546***	0.093	[0.396; 0.668]	1065.114***	973
website aesthetics	58	24047	0.577***	0.078	[0.464; 0.672]	5564.646***	7312
website information quality	98	64161	0.618***	0.055	[0.546; 0.682]	8619.434***	28156
website interactivity	56	26638	0.519***	0.098	[0.36; 0.648]	8160.11***	5677
website usability	119	47297	0.558***	0.037	[0.506; 0.607]	7174.423***	32167
Pricing	57	51159	0.525***	0.080	[0.399; 0.632]	6720.942***	5988
dynamic pricing	--	--	--	--	--	--	--
pay what you want	--	--	--	--	--	--	--
price	--	--	--	--	--	--	--
price perception	56	27570	0.525***	0.081	[0.398; 0.633]	6720.942***	5988
personalized pricing	--	--	--	--	--	--	--
transparent pricing	--	--	--	--	--	--	--
auction	--	--	--	--	--	--	--
reverse auction	--	--	--	--	--	--	--
Fulfillment	85	31633	0.512***	0.075	[0.394; 0.614]	12718.751***	11469
click & collect	2	836	0.158***	0.000	[0.158; 0.158]	0ns	0
fulfillment speed	43	16092	0.63***	0.126	[0.452; 0.76]	8977.51***	5298
return policy	31	8731	0.349***	0.079	[0.2; 0.483]	1993.776***	640
shipping fees	9	5974	0.429*	0.172	[0.058; 0.696]	700.77***	59
Offering	42	20894	0.464***	0.052	[0.377; 0.543]	2215.795***	2655
assortment	36	18359	0.441***	0.057	[0.343; 0.529]	1801.021***	1651
channel integration	6	2535	0.576**	0.128	[0.315; 0.756]	245.599***	113
Security / Privacy	79	25119	0.439***	0.037	[0.378; 0.497]	1920.944***	7372
privacy	35	8552	0.472***	0.066	[0.362; 0.569]	943.943***	1522

website security	44	16567	0.412***	0.042	[0.34; 0.479]	969.769***	2155
Sales Promotion	4	1128	0.324†	0.124	[-0.059; 0.624]	57.664***	8
coupons	--	--	--	--	--	--	--
discounts	2	870	0.229ns	0.106	[-0.806; 0.919]	8.354**	0
rebates	--	--	--	--	--	--	--
shopping day promotion	--	--	--	--	--	--	--
Community	5	1403	0.693*	0.208	[0.263; 0.894]	252.725***	87
influencer marketing	--	--	--	--	--	--	--
online brand communities	3	850	0.732*	0.179	[0.155; 0.937]	43.249***	45
organic social media	2	553	0.633ns	0.516	[-1; 1]	59.315***	6
Advertising	--	--	--	--	--	--	--
affiliate marketing	--	--	--	--	--	--	--
audio advertising	--	--	--	--	--	--	--
augmented reality marketing	--	--	--	--	--	--	--
content marketing	--	--	--	--	--	--	--
direct mail	--	--	--	--	--	--	--
display advertising	--	--	--	--	--	--	--
email advertising	--	--	--	--	--	--	--
event marketing	--	--	--	--	--	--	--
mobile marketing	--	--	--	--	--	--	--
online video advertising	--	--	--	--	--	--	--
out-of-home marketing	--	--	--	--	--	--	--
print advertising	--	--	--	--	--	--	--
print catalogue	--	--	--	--	--	--	--
product placement	--	--	--	--	--	--	--
push notification marketing	--	--	--	--	--	--	--
referral marketing	--	--	--	--	--	--	--
retargeting advertising	--	--	--	--	--	--	--
scarcity marketing	--	--	--	--	--	--	--
search engine advertising	--	--	--	--	--	--	--
search engine optimization	--	--	--	--	--	--	--
social media advertising	--	--	--	--	--	--	--

sponsored content advertising	--	--	--	--	--	--	--
sponsorship marketing	--	--	--	--	--	--	--
television advertising	--	--	--	--	--	--	--
testimonial marketing	--	--	--	--	--	--	--
viral advertising	--	--	--	--	--	--	--
Physical Experience	2	403	0.158ns	0.464	[-1; 1]	96.321***	0
flagship store	--	--	--	--	--	--	--
pop-up stores	--	--	--	--	--	--	--
retail store	2	403	0.158ns	0.464	[-1; 1]	96.321***	0
Customer Relationship	4	5637	0.258†	0.105	[-0.072; 0.538]	109.235***	7
loyalty program	2	4182	0.1***	0.000	[0.1; 0.1]	0ns	0
cause marketing	2	1455	0.397ns	0.123	[-0.82; 0.964]	20.543***	5

Note: †p < .10, *p < .05, **p < .01, ***p < .001
 We only report effect sizes where at least two independent studies were available.

Table D-9: E-Commerce Mix Effects on Purchase Intention

	k	N	r	SE r	95%-CI	Q	fail safe N
Website	458	200791	0.5***	0.018	[0.474; 0.526]	26980.136***	371052
assurance seals	23	7542	0.312***	0.060	[0.196; 0.419]	553.338***	254
customer service information	18	7639	0.474***	0.086	[0.322; 0.603]	740.539***	325
online reviews	33	12106	0.425***	0.062	[0.316; 0.523]	970.591***	1137
online store shopping functions	28	10317	0.422***	0.054	[0.327; 0.509]	693.814***	958
recommender systems	28	9982	0.503***	0.104	[0.328; 0.645]	2116.261***	1445
website aesthetics	76	39387	0.505***	0.059	[0.413; 0.587]	9935.114***	10961
website information quality	97	47446	0.526***	0.035	[0.473; 0.575]	3836.988***	19826
website interactivity	44	23160	0.519***	0.047	[0.446; 0.586]	2132.319***	3731
website usability	111	43212	0.543***	0.030	[0.499; 0.583]	4517.357***	26461
Pricing	53	23889	0.563***	0.070	[0.459; 0.651]	4589.62***	6222
dynamic pricing	--	--	--	--	--	--	--
pay what you want	3	497	0.393†	0.123	[-0.116; 0.739]	13.899***	5
price	2	467	-0.146ns	0.062	[-0.734; 0.567]	1.758ns	0
price perception	47	22510	0.598***	0.073	[0.495; 0.685]	4291.13***	5914
personalized pricing	--	--	--	--	--	--	--
transparent pricing	--	--	--	--	--	--	--
auction	--	--	--	--	--	--	--
reverse auction	--	--	--	--	--	--	--
Fulfillment	48	22556	0.471***	0.070	[0.354; 0.573]	3046.458***	2971
click & collect	--	--	--	--	--	--	--
fulfillment speed	17	9199	0.546***	0.138	[0.308; 0.719]	1508.939ns	563
return policy	22	7408	0.463***	0.097	[0.291; 0.606]	1038.071***	678
shipping fees	8	5705	0.279*	0.103	[0.043; 0.486]	115.885***	14
Offering	63	44018	0.501***	0.045	[0.431; 0.565]	5366.198***	6902
assortment	43	32909	0.536***	0.056	[0.451; 0.611]	4262.438***	3734
channel integration	20	11109	0.42***	0.070	[0.292; 0.534]	1103.491***	466
Security / Privacy	58	20430	0.43***	0.043	[0.358; 0.497]	1672.48ns	4225
privacy	25	8743	0.391***	0.057	[0.286; 0.487]	532.385***	619

website security	33	11687	0.458***	0.061	[0.355; 0.55]	1109.417***	1575
Sales Promotion	6	2304	0.225*	0.087	[0.006; 0.424]	131.168***	8
coupons	2	709	0.154ns	0.099	[-0.802; 0.888]	6.846**	0
discounts	3	1364	0.265ns	0.174	[-0.45; 0.773]	107.261***	3
rebates	--	--	--	--	--	--	--
shopping day promotion	--	--	--	--	--	--	--
Community	26	8142	0.5***	0.072	[0.38; 0.603]	768.451***	968
influencer marketing	5	1396	0.464***	0.044	[0.363; 0.554]	9.017*	20
online brand communities	6	1783	0.652**	0.162	[0.344; 0.834]	195.838***	125
organic social media	15	4963	0.432***	0.097	[0.249; 0.586]	412.31***	220
Advertising	18	5032	0.651**	0.245	[0.243; 0.863]	3557.567***	776
affiliate marketing	--	--	--	--	--	--	--
audio advertising	--	--	--	--	--	--	--
augmented reality marketing	5	1074	0.921†	0.621	[-0.401; 0.999]	2254.057***	297
content marketing	3	1028	0.461ns	0.360	[-0.809; 0.972]	303.097***	13
direct mail	--	--	--	--	--	--	--
display advertising	--	--	--	--	--	--	--
email advertising	2	430	0.363ns	0.152	[-0.916; 0.981]	7.051**	2
event marketing	--	--	--	--	--	--	--
mobile marketing	--	--	--	--	--	--	--
online video advertising	--	--	--	--	--	--	--
out-of-home marketing	--	--	--	--	--	--	--
print advertising	--	--	--	--	--	--	--
print catalogue	--	--	--	--	--	--	--
product placement	--	--	--	--	--	--	--
push notification marketing	--	--	--	--	--	--	--
referral marketing	--	--	--	--	--	--	--
retargeting advertising	--	--	--	--	--	--	--
scarcity marketing	3	1046	0.268†	0.093	[-0.126; 0.589]	12.002***	1
search engine advertising	--	--	--	--	--	--	--
search engine optimization	--	--	--	--	--	--	--
social media advertising	--	--	--	--	--	--	--

sponsored content advertising	--	--	--	--	--	--	--
sponsorship marketing	--	--	--	--	--	--	--
television advertising	--	--	--	--	--	--	--
testimonial marketing	--	--	--	--	--	--	--
viral advertising	--	--	--	--	--	--	--
Physical Experience	13	3120	0.31**	0.096	[0.111; 0.486]	217.764***	50
flagship store	--	--	--	--	--	--	--
pop-up stores	--	--	--	--	--	--	--
retail store	13	3120	0.31**	0.096	[0.111; 0.486]	217.764***	50
Customer Relationship	4	1128	0.324†	0.124	[-0.059; 0.624]	57.664***	8
loyalty program	--	--	--	--	--	--	--
cause marketing	3	984	0.386ns	0.140	[-0.198; 0.768]	40.456***	8

Note: †p < .10, *p < .05, **p < .01, ***p < .001
 We only report effect sizes where at least two independent studies were available.

Table D-10: E-Commerce Mix Effects on Purchase Behavior

	k	N	r	SE r	95%-CI	Q	fail safe N
Website	80	9127530	0.273***	0.059	[0.161; 0.378]	31669.099***	4621
assurance seals	4	299236	0.566ns	0.318	[-0.386; 0.934]	290.041***	9
customer service information	3	1055	0.314ns	0.228	[-0.588; 0.868]	83.092***	4
online reviews	22	8640309	0.307ns	0.184	[-0.07; 0.607]	6180.032***	394
online store shopping functions	3	12444	0.259ns	0.119	[-0.246; 0.653]	157.255***	5
recommender systems	5	38751	0.266*	0.070	[0.079; 0.435]	1038.61***	35
website aesthetics	9	19421	0.131ns	0.103	[-0.105; 0.354]	218.781***	6
website information quality	12	60332	0.239**	0.070	[0.09; 0.378]	389.691***	76
website interactivity	10	47626	0.213ns	0.134	[-0.088; 0.479]	3310.071***	61
website usability	12	8356	0.349**	0.103	[0.136; 0.53]	1164.118***	130
Pricing	25	5895138	0.194**	0.063	[0.066; 0.315]	34902.111***	658
dynamic pricing	--	--	--	--	--	--	--
pay what you want	--	--	--	--	--	--	--
price	19	5881532	-0.166**	0.044	[-0.255; -0.075]	32180.578***	295
price perception	6	13606	0.352ns	0.224	[-0.214; 0.741]	802.341***	36
personalized pricing	--	--	--	--	--	--	--
transparent pricing	--	--	--	--	--	--	--
auction	--	--	--	--	--	--	--
reverse auction	--	--	--	--	--	--	--
Fulfillment	23	2014180	0.178**	0.062	[0.051; 0.299]	3771.762***	90
click & collect	3	16326	-0.117ns	0.083	[-0.442; 0.235]	39.684***	2
fulfillment speed	5	46860	0.196ns	0.153	[-0.225; 0.555]	1099.687***	10
return policy	8	22004	0.23**	0.063	[0.084; 0.366]	259.312***	20
shipping fees	7	1928990	0.271ns	0.143	[-0.074; 0.558]	350.062***	9
Offering	7	152142	0.15*	0.051	[0.025; 0.27]	541.363***	7
assortment	6	148918	0.15*	0.056	[0.006; 0.288]	541.363***	7
channel integration	--	--	--	--	--	--	--
Security / Privacy	4	8669	0.562†	0.237	[-0.133; 0.886]	406.394***	22
privacy	2	438	0.713***	0.000	[0.713; 0.713]	0ns	5

website security	2	8231	0.468ns	0.431	[-1; 1]	188.766***	5
Sales Promotion	18	4060672	0.212†	0.117	[-0.032; 0.433]	2187741.366***	1984
coupons	6	3991287	0.411ns	0.284	[-0.304; 0.83]	2149552.161***	1710
discounts	12	69385	0.075ns	0.075	[-0.091; 0.237]	1187.149***	3
rebates	--	--	--	--	--	--	--
shopping day promotion	--	--	--	--	--	--	--
Community	4	30869	0.233*	0.051	[0.076; 0.38]	21.73***	14
influencer marketing	--	--	--	--	--	--	--
online brand communities	2	30359	0.314†	0.033	[-0.093; 0.631]	1.976ns	10
organic social media	--	--	--	--	--	--	--
Advertising	47	29033299	0.215*	0.090	[0.037; 0.379]	36964853.222***	17727
affiliate marketing	4	2191182	0.225ns	0.166	[-0.296; 0.643]	2397.266***	23
audio advertising	--	--	--	--	--	--	--
augmented reality marketing	--	--	--	--	--	--	--
content marketing	--	--	--	--	--	--	--
direct mail	--	--	--	--	--	--	--
display advertising	3	3403447	-0.125ns	0.349	[-0.935; 0.894]	701854.794***	23
email advertising	4	1805517	0.051ns	0.035	[-0.061; 0.161]	1628.497***	0
event marketing	--	--	--	--	--	--	--
mobile marketing	--	--	--	--	--	--	--
online video advertising	--	--	--	--	--	--	--
out-of-home marketing	--	--	--	--	--	--	--
print advertising	--	--	--	--	--	--	--
print catalogue	--	--	--	--	--	--	--
product placement	--	--	--	--	--	--	--
push notification marketing	--	--	--	--	--	--	--
referral marketing	5	5252424	0.634ns	0.649	[-0.886; 0.994]	20888101.149***	7409
retargeting advertising	8	2276139	0.096ns	0.051	[-0.025; 0.213]	664.296***	9
scarcity marketing	3	2991825	0.402ns	0.216	[-0.477; 0.879]	77.518***	21
search engine advertising	8	5990824	0.234†	0.120	[-0.047; 0.482]	1144739.8***	779
search engine optimization	6	3062879	0.09ns	0.072	[-0.094; 0.268]	1609.385***	8
social media advertising	--	--	--	--	--	--	--

sponsored content advertising	--	--	--	--	--	--	--
sponsorship marketing	--	--	--	--	--	--	--
television advertising	--	--	--	--	--	--	--
testimonial marketing	--	--	--	--	--	--	--
viral advertising	--	--	--	--	--	--	--
Physical Experience	--	--	--	--	--	--	--
flagship store	--	--	--	--	--	--	--
pop-up stores	--	--	--	--	--	--	--
retail store	--	--	--	--	--	--	--
Customer Relationship	--	--	--	--	--	--	--
loyalty program	--	--	--	--	--	--	--
cause marketing	--	--	--	--	--	--	--

Note: †p < .10, *p < .05, **p < .01, ***p < .001
 We only report effect sizes where at least two independent studies were available.
 Pricing dimension *r* calculated with inverse-coded “price” effect sizes

Table D-11: E-Commerce Mix Effects on Word-of-Mouth

	k	N	r	SE r	95%-CI	Q	fail safe N
Website	55	32761	0.515***	0.041	[0.453; 0.572]	2591.295***	5586
assurance seals	--	--	--	--	--	--	--
customer service information	3	684	0.31*	0.060	[0.063; 0.522]	3.589†	1
online reviews	4	8134	0.496*	0.125	[0.143; 0.737]	45.04***	15
online store shopping functions	--	--	--	--	--	--	--
recommender systems	2	955	0.669***	0.000	[0.669; 0.669]	0ns	5
website aesthetics	12	4512	0.566***	0.081	[0.432; 0.675]	220.657***	331
website information quality	13	4807	0.517***	0.071	[0.394; 0.621]	308.919***	316
website interactivity	7	9084	0.477*	0.167	[0.105; 0.732]	811.828***	133
website usability	13	4281	0.526***	0.091	[0.368; 0.654]	311.787***	312
Pricing	8	10014	0.505***	0.093	[0.324; 0.65]	110.241***	78
dynamic pricing	--	--	--	--	--	--	--
pay what you want	--	--	--	--	--	--	--
price	--	--	--	--	--	--	--
price perception	7	2802	0.505**	0.100	[0.3; 0.665]	110.241***	78
personalized pricing	--	--	--	--	--	--	--
transparent pricing	--	--	--	--	--	--	--
auction	--	--	--	--	--	--	--
reverse auction	--	--	--	--	--	--	--
Fulfillment	8	10552	0.53***	0.092	[0.355; 0.669]	127.275***	71
click & collect	--	--	--	--	--	--	--
fulfillment speed	3	1804	0.609*	0.109	[0.233; 0.826]	34.051***	18
return policy	4	1536	0.47*	0.150	[0.028; 0.758]	86.91***	15
shipping fees	--	--	--	--	--	--	--
Offering	5	2233	0.472*	0.113	[0.193; 0.68]	116.128***	29
assortment	5	2233	0.472*	0.113	[0.193; 0.68]	116.128***	29
channel integration	--	--	--	--	--	--	--
Security / Privacy	12	4339	0.521***	0.070	[0.4; 0.625]	167.631***	217
privacy	5	1831	0.533*	0.167	[0.125; 0.787]	133.192***	33

website security	7	2508	0.515***	0.050	[0.418; 0.6]	32.778***	75
Sales Promotion	2	804	0.054ns	0.083	[-0.765; 0.806]	4.279*	0
coupons	--	--	--	--	--	--	--
discounts	--	--	--	--	--	--	--
rebates	--	--	--	--	--	--	--
shopping day promotion	--	--	--	--	--	--	--
Community	6	9358	0.449*	0.173	[0.034; 0.732]	174.371***	27
influencer marketing	--	--	--	--	--	--	--
online brand communities	2	7427	0.259***	0.000	[0.259; 0.259]	0ns	0
organic social media	4	1931	0.495ns	0.238	[-0.228; 0.866]	172.2***	21
Advertising	--	--	--	--	--	--	--
affiliate marketing	--	--	--	--	--	--	--
audio advertising	--	--	--	--	--	--	--
augmented reality marketing	--	--	--	--	--	--	--
content marketing	--	--	--	--	--	--	--
direct mail	--	--	--	--	--	--	--
display advertising	--	--	--	--	--	--	--
email advertising	--	--	--	--	--	--	--
event marketing	--	--	--	--	--	--	--
mobile marketing	--	--	--	--	--	--	--
online video advertising	--	--	--	--	--	--	--
out-of-home marketing	--	--	--	--	--	--	--
print advertising	--	--	--	--	--	--	--
print catalogue	--	--	--	--	--	--	--
product placement	--	--	--	--	--	--	--
push notification marketing	--	--	--	--	--	--	--
referral marketing	--	--	--	--	--	--	--
retargeting advertising	--	--	--	--	--	--	--
scarcity marketing	--	--	--	--	--	--	--
search engine advertising	--	--	--	--	--	--	--
search engine optimization	--	--	--	--	--	--	--
social media advertising	--	--	--	--	--	--	--

sponsored content advertising	--	--	--	--	--	--	--
sponsorship marketing	--	--	--	--	--	--	--
television advertising	--	--	--	--	--	--	--
testimonial marketing	--	--	--	--	--	--	--
viral advertising	--	--	--	--	--	--	--
Physical Experience	--	--	--	--	--	--	--
flagship store	--	--	--	--	--	--	--
pop-up stores	--	--	--	--	--	--	--
retail store	--	--	--	--	--	--	--
Customer Relationship	2	383	0.196ns	0.090	[-0.739; 0.873]	2.904†	0
loyalty program	--	--	--	--	--	--	--
cause marketing	--	--	--	--	--	--	--

Note: †p < .10, *p < .05, **p < .01, ***p < .001
 We only report effect sizes where at least two independent studies were available.

Appendix C: Description of Included Moderators

Table D-12: Moderators Analyzed in the Meta-Regression

Variable	Description	Coding
Year	Year of publication	1998, 2011, ...
Retailer Type	Type of (r)etailer	1 = pure online 2 = multichannel 3 = omnichannel 4 = m-commerce If not available = unspecified
Country	Country where data was obtained	String
Product Context	Primary products sold by the focal firm (e.g., grocery, home-electronics)	String If not available = unspecified
Demographic	Sample characteristic	1 = student sample 0 = else
Study Type	Method / source of data	1 = survey 2 = experiment 3 = field data
Journal h-index	Journal h-index according to Scimago	Numeric If not available = 1
ES Calculated	Whether effect size was transformed or calculated using available statistical information	1 = yes 0 = no
Partial Correlation	Whether effect sized is based on beta coefficients or other measures of partial correlation	1 = yes 0 = no

Appendix D: Testing for Multi-Collinearity of Method Control Variables

Table D-13: Correlation Matrix of Method Control Variables

	1	2	3	4	5	6	7
1 Source Type							
2 Year	0.06**						
3 Demographic	0.05*	-0.10***					
4 Study Type	-0.09***	-0.20***	-0.19***				
5 Journal h-index	-0.27***	-0.18***	-0.04	0.31***			
6 Partial Correlation	-0.04	-0.18***	-0.13***	0.17***	-0.03		
7 Calculated Effect Size	0.03	-0.06**	0	0.27***	0.13***	-0.02	

E. ESSAY IV

Klink, B. (submitted). Uncovering the Strategic Relevance, Managerial Perceptions, and Practices of Corporate Branding in E-Commerce. *Journal of Marketing*.

Uncovering the Strategic Relevance, Managerial Perceptions, and Practices of Corporate Branding in E-Commerce

Abstract

Even though online retailers are among the world's strongest brands, researchers have neglected e-tailer brands and their strategic relevance thus far. This research establishes, explores, and explains the causal relationship between online retailer brand equity and e-commerce market share. The competitive advantage afforded by corporate brand equity provides a conclusive explanation for the astonishingly high market concentration in online retailing. This investigation further uncovers managerial perceptions regarding e-tailer branding, by drawing on qualitative interviews with marketing executives from a diverse set of online retailers, collectively representing more than 2.4 bn USD in e-commerce revenue. It thereby sheds light on the benefits and risks of a strong corporate brand, and uncovers and explains the intention-behavior gap regarding corporate branding in e-commerce. By zooming in on the practices of corporate branding in e-commerce, it develops a framework of e-tailer brand marketing along the customer journey. This research further contributes to e-commerce and brand marketing literatures by discovering several new phenomena: the utilitarian shopping motivation trap, the vicious cycle of brand marketing abandonment, and performative branding, a novel brand marketing approach. This article concludes by calling for further research and outlining of avenues for future research.

1. Introduction

E-Commerce leviathans such as Amazon, Walmart, Zalando, or Alibaba are some of the world's strongest brands (Kantar, 2022). Online retailers and omnichannel retailers furthermore represent a large group among the globally leading brands (Ang, 2021), a pattern also widely observable in national markets. And yet, e-commerce corporate brands have been studied astonishingly little to date, and prior research has been direly neglecting the strategic relevance and role of corporate brand equity in e-commerce. Ironically, anecdotal evidence suggests that treating e-tailer branding as an afterthought is widely mirrored in the e-commerce industry itself, notwithstanding its substantial strategic importance (Vizard, 2019).

Today's e-commerce markets are extraordinarily concentrated (Droesch, 2021; ecommerceDB, 2022), and fiercely competitive at the same time. Technology providers such as Shopify allow the rapid and economic implementation of an online shop, and digital marketplaces even eliminate the need for a self-operated online store. Considering these ever-decreasing technological entry barriers, the dominance of a select few e-commerce players appears counterintuitive (Fee, Mialon, & Williams, 2004). Previous research conceptually proposed a link between e-tailer brand equity and firm performance (Kim, Sharma, & Setzekorn, 2002), and found a relationship between product brand equity and market share (Chaudhuri & Holbrook, 2001). Accordingly, online retailer brand equity might be likewise causally related to market share and thus market concentration. However, prior literature provides no answers to whether these relationships hold true in the e-commerce context.

This research consequently explores the strategic relevance of e-commerce corporate brand equity and its relationship to market share. In a comprehensive literature review on corporate brands in e-commerce, it summarizes the current knowledge and demonstrates how the little available evidence is unable to provide answers regarding its strategic relevance. In response to this unsatisfactory void, this research subsequently qualitatively explores the strategic role and relevance of corporate brands in business-to-consumer e-commerce settings. It uncovers a substantial relationship between e-tailer brand equity and e-commerce market share and elucidates the responsible causal mechanisms. The findings show how a strong brand delivers decisive competitive advantage to online retailers, and that brand equity can convincingly explain the extraordinary market-concentration in e-commerce. It further illuminates marketing executives' perceptions, revealing how and why many online retailers falter to implement brand marketing, despite recognizing its relevance. The results moreover

shed light on e-tailer brand-marketing practices, revealing the high relevance of brand equity at the beginning and at the end of the customer journey. Finally, this investigation uncovers and explores a novel brand marketing strategy: performative branding - anchoring a brand in consumer minds by sustained and consistent evocative action. By assuming a firm-centric perspective, this investigation closely reconnects brand marketing research to its recipients, and hopes to revitalize our capability to provide timely, relevant, and actionable insights. Furthermore, it hopes to spark much-needed further research and inspire researchers to deepen our knowledge on corporate brands in e-commerce.

2. A Primer on Corporate Brand, Brand Image, Brand Strength and Brand Equity

Brands identify and distinguish goods, services, or entities (such as persons or organizations) from their competing alternatives. In the product brand context, brands have been shown to elicit loyalty, increase willingness to pay, and, ultimately, to drive market-share (Chaudhuri & Holbrook, 2001). In many cases, and especially so in retailing and e-commerce, firms themselves are perceived as brands. As Burt and Davies (2010, p. 869) put it: “When we talk about brands in retailing as customers, we generally refer to a specific (named) company or a store [...]” In this context, corporate branding refers to using a company’s name to brand offerings. Research on corporate brands established trust in a corporate brand to positively affect purchase intentions and to stimulate word-of-mouth (WOM) behavior of consumers (Sichtmann, 2007). Corporate branding strategies were furthermore directly linked to financial firm performance and stock returns, demonstrating the great strategic relevance of corporate brands (Hsu, Fournier, & Srinivasan, 2016).

Brand image refers to consumers’ perception of brands (Common Language Marketing Dictionary, 2022). According to Keller (1993), brand image and brand attitude are closely connected, yet distinct concepts. In his view, brand image is the totality or gestalt of consumers’ associations and connotations regarding a brand. In contrast, brand attitude refers to consumers’ evaluation of a brand, i.e., whether and to what degree they are sympathetic towards any given brand, based on their brand image (Faircloth, Capella, & Alford, 2001). Brand attitude hence constitutes an element of brand image, and brand image provides the basis for consumer brand evaluation.

Brand strength has been previously conceptualized as significant positive brand equity (Ho-Dac, Carson, & Moore, 2013). Brand equity is generally understood to

represent the value of a brand (Aaker, 1992; Keller, 1993). However, the precise nature and appropriate measurement of brand equity have been subject to extensive debate (Faircloth et al., 2001). This article adopts Keller's (1993) customer-based view of brand equity, positing that brand equity encompasses brand familiarity and strong, unique and favorable brand associations in consumer minds. Integrating previous research, brand equity is henceforth considered to incorporate brand awareness, brand image, brand attitude, and brand loyalty (Aaker, 1992; Keller, 1993; Faircloth et al., 2001).

3. Current Research Status on Corporate Brands in E-Commerce

The literature on e-commerce corporate brands is markedly scarce. Nonetheless, the little evidence available points towards significant advantages for e-tailers with high brand equity. In their very early research, Smith and Brynjolfsson (2001) found consumers to accept higher prices on price comparison websites if the online retailer was a well-known brand. They further showed that e-tailer brands serve as a proxy for vendor credibility, which provides a causal explanation for their observation that most consumers did not choose the cheapest offer. Drawing on Keller's brand equity model (1993), Kim et al. (2002) conceptually proposed a positive relationship between e-tailer brand equity and firm performance. In their view, brand equity represents a competitive advantage in e-commerce. Leaning on the trust paradigm, they moreover reason that strong online retailer brands lower risk perceptions of shoppers. Merrilees and Fry (2002) demonstrated how trust, online shop interactivity and navigability positively influence corporate brand attitudes, which in turn positively affected online retailer brand loyalty. Park and Stoel (2005) found familiarity with an apparel online retailer brand lowered perceived risk and increased purchase intention, although the effect of previous shopping experience with the brand was found to be significantly larger. Benedicktus, Brady, Darke, and Voorhees (2010) confirmed these findings by showing that online retailer brand familiarity increases purchase intention directly and indirectly via trust. Little prior research investigated brand marketing channels or activities in the e-tailer brand context. A notable exception are Zhou, Song, Li, Tan, and Zhou (2017), who demonstrated that e-tailers can use microblogging social media to increase brand equity, which in turn leveraged purchase intention. Most recently, Chiu and Cho (2021) showed perceived e-tailer brand leadership to drive customer satisfaction and repurchase intention. However, of the four brand leadership dimensions in their study, quality, innovativeness, value, and popularity, only the latter two had direct effects on repurchase intentions.

Brand Congruence Effects in Omnichannel Retailing

Ensuring a consistent brand presence across several distribution channels is complex but crucial for omnichannel retailers. Carlson and O'Cass (2011) showed that congruence between retail brand and website image positively influence website attitudes. Brand image congruence further negatively moderated the influence of website communication and aesthetics on website attitudes, while it positively moderated transaction efficiency's impact on website attitudes. Website attitudes, in turn, were positively related to repurchase intention and word-of-mouth behavior. These results were supported in later research, which showed that online and offline brand image incongruity worsened flow experience and negatively impacted attitudes towards the website (Landers, Beatty, Wang, & Mothersbaugh, 2015). Flow experience and attitudes in turn directly impacted revisit intentions of the omnichannel retailer's online shop.

Brand Awareness Effects of Physical Presence

Many omnichannel retailers operate sizable store networks. E-tailers increasingly use physical touchpoints in their marketing activities, for example by opening pop-up stores. Some even expand their operations by establishing or buying a bricks-and-mortar store network, adopting an omnichannel strategy. Prior research showed that physical presences provide direct benefits to online shops. Physical stores were found to convey trustworthiness and increase purchase intentions in an online store, and that this relationship is fully mediated by brand awareness (Benedicktus et al., 2010). Hence, the increased brand awareness afforded by retail stores was causal for higher online revenues. Large field studies confirm this billboard effect of physical stores, by demonstrating significant online shop revenue increases following physical store openings (Avery, Steenburgh, Deighton, & Caravella, 2012).

Brand-Related Signals of Trustworthiness

It is well established that brands convey trust (Chaudhuri & Holbrook, 2001). Trust is a vital factor in e-commerce, as it drives a multitude of positive outcomes, such as attitude, intention to use a website, purchase and re-purchase intention, satisfaction, and loyalty (Kim & Peterson, 2017). It is therefore hardly surprising that e-tailers frequently use various brand-related cues to signal their trustworthiness to potential customers.

Lee, Ang, and Dubelaar (2005) investigated the influence of trust signals on store choice behavior. In an experiment, participants were asked to choose between buying at an unknown bricks-and-mortar retailer, an unknown online shop, or at neither. Selling branded products, offering a money-back guarantee, and assuring privacy significantly

increased choices of the unknown online retailer. Similarly, in a study by Park and Lennon (2009), offering products with a well-known brand name was found to positively impact online store image and perceived value, which in turn increased purchase intentions. In the bricks-and-mortar retailing context, several studies suggest the possibility of image transfer between offered product brands and retailer brand, and vice versa (Burt & Davies, 2010). Whether this is also applicable to the e-commerce context is currently unknown.

New online shop brands can benefit from strategically disclosing their affiliation with an established corporate brand (Delgado-Ballester & Hernández-Espallardo, 2008; Lowry, Vance, Moody, Beckman, & Read, 2008). Displaying affiliation with an established brand increased intention to purchase and willingness to provide personal information at an unknown travel website (Delgado-Ballester & Hernández-Espallardo, 2008). Interestingly, trust levels were only elevated when brands were presented as belonging to the same company, but not when a commercially independent similar brand was displayed. In contrast to this result, Lowry et al. (2008) found an unknown online brand's association with an independent established brand to increase trusting beliefs towards a fictitious hotel reservation website.

Previous research further showed e-tailer firm reputation to be closely associated with trust and satisfaction, and indirectly with loyalty (Jin, Park, & Kim, 2008). User reviews of online shops are an omnipresent form of reputation in the digital marketplace and were found to convey trustworthiness and increase purchase intentions (Benedicktus et al., 2010). This effect was equally present at familiar and unfamiliar brands, as well as at omnichannel and e-tailer firms.

Summary and Gaps

Although previous research has found some advantageous outcomes linked to online retailer brand equity, it unfortunately cannot provide conclusive answers pertaining to the strategic relevance of corporate brands in e-commerce. Whether e-tailer brand equity is indeed a competitive advantage in e-commerce remains uncertain. Consequently, some theoretically and strategically important questions haven't been addressed to date: What are the consequences of corporate brand equity in e-commerce? Is there a dark side to a strong online retailer brand? And finally, what motivations and reasons drive and hinder e-tailers to engage in brand marketing?

Table E-1: Overview of Research on Corporate Brands in E-Commerce

	IV	→	DV	Study
Corporate Brand-related	Brand Familiarity	Trustworthiness	Price Sensitivity (-)	Smith and Brynjolfsson (2001)
		Trust, Risk (-)	Purchase Intention	Park and Stoel (2005); Benedicktus et al. (2010)
	Brand Leadership	Satisfaction	Repurchase Intention	Chiu and Cho (2021)
	Trust	Brand Attitude	Loyalty	Merrilees and Fry (2002)
	Retail Brand and Website Image Congruency	Website Attitude	Revisit, Repurchase Intention, Word-Of-Mouth	Carlson and O'Cass (2011); Landers et al. (2015)
Marketing Channel-related	Physical Stores	Brand Awareness, Trustworthiness	Purchase Intentions, Online Store Revenue	Benedicktus et al. (2010); Avery et al. (2012)
	Social Media	Brand Equity	Purchase Intention	Zhou et al. (2017)
Reputation-related	Branded Products		Unknown Online Store Choice	Lee et al. (2005)
		Online Store Image, Perceived Value	Purchase Intentions	Park and Lennon (2009)
	Brand Affiliation / Brand Alliance	Trust (?)	Intention to Purchase, Willingness to Provide Personal Information	Delgado-Ballester and Hernández-Espallardo (2008); Lowry et al. (2008)
	E-Tailer Reputation	Trust, Satisfaction	Loyalty	Jin et al. (2008)
	User Reviews of Online Shop	Trustworthiness	Purchase Intentions	Benedicktus et al. (2010)

As summarized in Table 1, prior research indicates well-known e-tailers may benefit from lowered price sensitivity on price comparison websites, elevated purchase intentions, and customer loyalty. These effects were primarily researched through the lenses of trust, risk, and trustworthiness, although a few studies adopted an attitude or satisfaction perspective. Moreover, first evidence suggests omnichannel retailers should be wary of brand consistency across channels. However, it is important to note that these results are based on a very limited number of studies and generally small samples sizes. Further research is hence urgently needed to confirm the robustness of these findings. Our understanding of the relationships between consumers and corporate brands in e-commerce is thus severely underdeveloped. Almost no research addressed affective tenets of customer-based brand equity. In particular, the brand image and brand attitude dimensions of e-tailer brands were direly neglected. This is very unfortunate, since many e-tailers are arguably desperate to forge strong relationships with their customer base, to counteract the volatility that haunts their competitive environment. Finally, and notably, no previous study on corporate brand marketing in e-commerce assumed the decision maker- or a firm-internal perspective. Since brands are the aggregate result of decision chains, crafted and managed by marketing departments over time, this severely narrows our perspective and curtails our ability to generate novel and relevant insights.

4. Exploring Corporate Brands in E-Commerce from an Upper Echelon Perspective

I ameliorate these gaps by exploring the strategic relevance of e-tailer brand equity from a marketing executive perspective in a qualitative investigation, posing the underpinning guiding question: How do marketing decision-makers perceive the strategic relevance and role of corporate brands in e-commerce?

As is good practice in qualitative research (Lee, Mitchell, & Sablynski, 1999), a brief note on my personal biases and sentiments potentially relevant to this research. At the time of conducting this research project, I have concerned myself extensively with strategic e-commerce marketing. In previous and still ongoing research projects, I primarily investigated what could be labelled as performance marketing, and as such might have become influenced by its mindset. I further have some professional experience in physical retailing and social media marketing. Additionally, I have a strong academic background in marketing. Considering myself a proponent of the mixed-method paradigm, I adhere to a post-positivist epistemology. I thus acknowledge the unique benefits and am wary of the disadvantages of different research

methodologies. I share common ground with subjectivists insofar as I am convinced that all scientific observation and inference is bound by subjective interpretation and researcher bias. In contrast to subjectivist thinking, I am steadfast in the belief that this can be remedied by good scientific practice, intersubjective replication, and methodological variety.

Methodological Approach

This qualitative investigation followed the inductive grounded theory approach and drew primarily on semi-structured interviews conducted with upper echelon marketing informants as data source (Whitler, Lee, Krause, & Morgan, 2020). I combined theories-in-use (TIU) practices and the Gioia methodology of grounded theory development (Gioia, Corley, & Hamilton, 2013; Zeithaml et al., 2019). In line with good practice in qualitative research, I continuously took field notes and reflection notes throughout the field phase and drew onto these as additional sources of information. Moreover, I familiarized myself thoroughly with the respective online shops and their brands in the sample and incorporated relevant ethnographic observations when conducting interviews (Kozinets, 2002).

I was mindful to follow established best practices and guidelines in qualitative research to ensure appropriate methodological rigor (Bluhm, Harman, Lee, & Mitchell, 2011; Gioia et al., 2013). In line with these recommendations, I developed a preliminary interview guide before conducting interviews. The preliminary interview guide was pretested during the first three interviews, and subsequently continuously adapted during the field-phase to give room to emerging topics and themes of interest (Zeithaml et al., 2019).

Data was analyzed iteratively, as is established practice, and open coding commenced during the field phase and was finalized after the field phase ended. I analyzed the rich data in a first round of open coding, faithfully using participant terminology, as is suggested (Gioia et al., 2013). This yielded 1928 first-level codes. Using axial coding, these first level-codes were then iteratively collated into thematic concepts. At this stage, I merged redundant first level-codes, retaining the most informative code label. Next, thematic concepts were further aggregated into second level dimensions. Finally, I drew on a combination of second-order dimensions and TIU propositions and arguments for theory development.

Sampling

I used theoretical sampling to select firms to be approached for participant recruitment. Initially, market leading firms were targeted as candidates, and were identified based on e-commerce market share data (ecommerceDB, 2022). This deliberate decision was based on two considerations: First, I considered it more likely that market leading firms actively engage in corporate brand marketing. Second, since these firms naturally have larger marketing budgets and -teams, I deemed them more likely to regularly take decisions regarding their corporate branding. After compiling this initial list, I identified the most senior marketing personnel in desk research and tried to obtain contact information. If contact information was unavailable, I tried to establish contact via a general email address. After an initial round of interviews, sampling proceeded based on theoretical considerations. During this phase, I actively approached member firms of two large European e-commerce associations. This aided in identifying suitable e-tailers. Interviews were continued until theoretical saturation was reached.

Field Phase and Data Gathering

I conducted 21 semi-structured interviews between mid-April and June 2022. At the time of interviewing, Covid-19 restrictions were effectively lifted in all markets. To facilitate authentic and reliable accounts, and to aid with informant recruitment, participants were guaranteed anonymity. In exchange for their participation, informants were assured to receive the results of this research.

Interviews were structured in two parts. In the first part, the interviews loosely followed the general flow set out in the interview guide. Importantly, interview flow was consciously driven by informants' and their accounts, which allowed me to openly delve into topics I had not previously considered when crafting the interview guide. During the second stage, the interviews blended into an open conversation on the topic, in which I used TIU-based probes to further explore emerging topics. This also facilitated the iterative grounded theory development process, as it allowed me to test and validate tentative propositions (Zeithaml et al., 2019). Probing questions were occasionally also incorporated during the first interview stage in later interviews if interview flow provided an opportune chance.

Interview duration ranged between 44 and 82 minutes, with an average length of 59 minutes. All interviews were audio-recorded with informants' permission and

transcribed verbatim by the author, yielding about 350 pages of transcripts⁹. I transcribed the interviews in original language to preserve linguistic nuances as sources of information in interviewees' accounts. Further, interviews were transcribed soon after they were conducted, to facilitate the identification of emerging themes worth pursuing further in following interviews. For the same purpose, I took field notes, comprising notes taken during interviews and reflection notes written after interviews. This allowed for adapting the interview guide according to emerging topics and themes, and informed theoretical sampling decisions to explore the universality and specificity of relevant emerging themes. Moreover, these field notes provided a valuable resource for formulating probing questions in line with theories-in-use techniques.

Final Sample and Informants

The 21 interviewed marketing decision-makers represent 24 distinct e-commerce brands active in multiple European markets. Informants were primarily C-level marketing executives, except for two participants who recently vacated such position, and two informants, who, although responsible for e-commerce marketing decision-making, were not on their company's management board. Table 2 provides an overview of the interviewed informants and their respective firms.

Despite the theoretically driven inclusion of small and medium-sized e-commerce companies, informants' firms collectively represent a sizable market-share in their respective primary markets. Based on publicly available data (ecommerceDB, 2022), the represented firms collectively accounted for at least 8.4% and 2.0% of total e-commerce revenue in 2020 in the two most represented primary markets in the sample. Together, the firms generated more than 2.4 bn USD in revenue in their primary markets alone. Due to data accessibility constraints and the fact that this figure only considers the primary market of these firms, this number is a conservative estimate. Four of the represented online shops belong to the twenty largest by revenue in their respective primary market, seven online shops belong to the top 100, and an additional three belong to the 200 largest. The remaining firms were SMEs and/or did not disclose their e-commerce revenues.

⁹ Refer to Appendix A for Redacted and Anonymized Interview Transcripts

Table E-2: Informants

Alias	Job Title*	Active Markets**	Online Revenue*** (2020, in mUSD)	Company Description	Physical Stores
Informant A	Head of Customer Engagement Marketing	1	72.1	Omnichannel Retailer (Bricks-and-Mortar Store Network)	60
Informant B	Head of Marketing Communications	1	19.0	Omnichannel Retailer (Bricks-and-Mortar Store Network)	110
Informant C	Head of Marketing	1	na	Omnichannel Retailer (Bricks-and-Mortar Store Network)	8
Informant D	Team-Lead Marketing	1	20.3	Online Pure Player (Single Store at Fulfillment-Center)	1
Informant E	Head of Marketing and Communications	1	111.6	Omnichannel Retailer (Flagship-Stores)	14
Informant F	Chief Marketing Officer	2	707.2	Omnichannel Retailer (Flagship-Stores in two countries)	17
Informant G	Founder & General Manager	1	6.9	Omnichannel Retailer (Bricks-and-Mortar Store Network)	22
Informant H	Chief Executive Officer (ex-CMO)	1	na	Online Pure Player (Single Store at Fulfillment-Center)	1
Informant I	Ex-Vice President E-Commerce	19	425.8	Online Pure Player (Single Store at Fulfillment-Center)	1
Informant J	Chief Digital Officer & Head of E-Commerce	1	na	Omnichannel Retailer (Bricks-and-Mortar Store Network)	5
Informant K	Founder & Chief Executive Officer	1	na	Online Pure Player	0

Informant L	Head of Marketing	1	37.8	Omnichannel Retailer (2 Online Shop Brands, Print Catalogue & Single Store at Fulfillment-Center)	1
Informant M	E-Commerce Manager	1	na	Omnichannel Retailer (Flagship-Stores)	9
Informant N	Head of Marketing & E-Commerce	1	489.5	Brand A: Online Pure Player (2 Showrooms) Brand B: Omnichannel Retailer (180 Bricks-and-Mortar Store Network)	182
Informant O	Head of Marketing	1	na	Direct-to-Consumer (D2C)	0
Informant P	Head of Brand Marketing	1	471.6	Omnichannel Retailer (Bricks-and-Mortar Store Network)	3700
Informant Q	Head of Marketing	2	5.9	Omnichannel Retailer (Bricks-and-Mortar Store Network)	29
Informant R	Project-Lead Online Marketing	1	na	Direct-to-Consumer (D2C)	0
Informant S	Head of Digital Commerce	8	38.9	Direct-to-Consumer (D2C) & Flagship Stores	6
Informant T	Head of Marketing Communications	10	71.9	Omnichannel Retailer (Bricks-and-Mortar Store Network)	80
Informant U	Head of Communication	1	na	Omnichannel Retailer (Bricks-and-Mortar Store Network)	280
Total			2'478.50 mUSD		4'526

*Please note: Job titles were translated as authentically as possible.

**Number of markets for which firm operates localized online stores

***E-commerce revenues only consider primary market (excluding bricks-and-mortar and other sources of revenue), according to ecommerceDB (2022)

The final sample comprises a diverse set of e-commerce firms. Companies in the sample adhere to omnichannel, direct-to-consumer (D2C), and pure online strategies. Firms further vary in size, ranging from established start-up, small-and-medium sized enterprise (SME), to market-leading. Moreover, firms in the sample are active nationally and internationally, with one firm being active in 19 European markets. Last, the companies in the sample represent a diverse set of product contexts, such as e-food, consumer electronics, fashion, or cosmetics.

5. The Competitive Advantage of Strong Corporate Brands in E-Commerce

Corporate brand equity is a decisive competitive advantage in e-commerce and linked to market share in multiple ways. A strong e-tailer brand leads to higher overall marketing efficiency, opens strategic opportunities to exploit additional sources of revenue, and increases bargaining power vis-à-vis suppliers and external partners. This allows strong e-commerce brands to benefit from bigger reach, a lower cost base, and increased revenue. Additionally, a strong e-tailer brand may provide access to exclusive opportunities due to preferential treatment by external partners, such as advertising platforms or suppliers. This way, a strong e-tailer brand can provide unique possibilities for gaining a head start on the competition and for differentiation, e.g., by offering exclusive products. In combination, these factors strengthen e-tailer competitiveness and drive market share over the long run. And yet, the importance of brand equity appears systematically underestimated in the e-commerce industry.

Informants universally agreed on the high strategic relevance of having a strong brand in e-commerce. As an example, when asked whether it is important to have a strong brand as an e-tailer, Informant I replied:

“Absolutely. For various reasons. So first of all, this hunting and gathering that used to exist doesn't happen anymore. People don't want to go through 10 different online retailers anymore, but either go to a strong brand that they trust or go to Google and get a recommendation from there, or another price search engine. But then it's all about the price.”

Many informants confirmed the relationship between brand equity and e-commerce market share and emphasized the importance of brand awareness in this respect. Also, the importance of a strong brand is perceived to increase with competitive intensity.

“I could judge this from a variety of perspectives, but I'm in the e-food business right now. That's low involvement. Nevertheless, we notice that the more intense the competition, the more important the brand becomes. In this respect, the answer is yes, but history shows that it has not been taken so seriously in recent years.” (Informant P)

Although not disagreeing on the importance of strong e-tailer brands in principle, three interview partners pointed out that they think e-commerce success is possible even without a strong brand and refer to price-comparison websites and third-party marketplaces. As Informant J explained:

“So, nobody is looking for our brand. Nobody knows our brand. But the trust is there, because we have many good reviews, people see our postal address is in [country], we don't ship from abroad, and so on. And therefore, I would say in this case, the brand is completely unimportant. Reputation is important, price is important, trust is important.”

This aligns well with previous research indicating how trust provided by a brand can be substituted with risk-reducing signals of trustworthiness. However, a generic corporate brand strategy carries several serious downsides in e-commerce, putting into questions whether such a strategy can be successful in the long run. Without at least some brand awareness or the pull-effect of a strong brand, gaining new customers primarily depends on performance marketing or price promotion activities, incurring serious customer acquisition cost. Against the backdrop of the homogeneity brought about by branded products, such e-tailers are further often perceived as interchangeable by consumers. Consumers are indifferent to feeble e-tailer brands, which results in transactional customer relationships and high customer churn rates. In such scenarios, price then becomes the main factor in consumers' decision-making.

“In the end, these merchants are just one of many on Google Shopping. And it's just about the price. While a strong brand with strong private brands can escape this mechanism. And such a [e-tailer] brand is also not arbitrarily interchangeable like those others.” (Informant I)

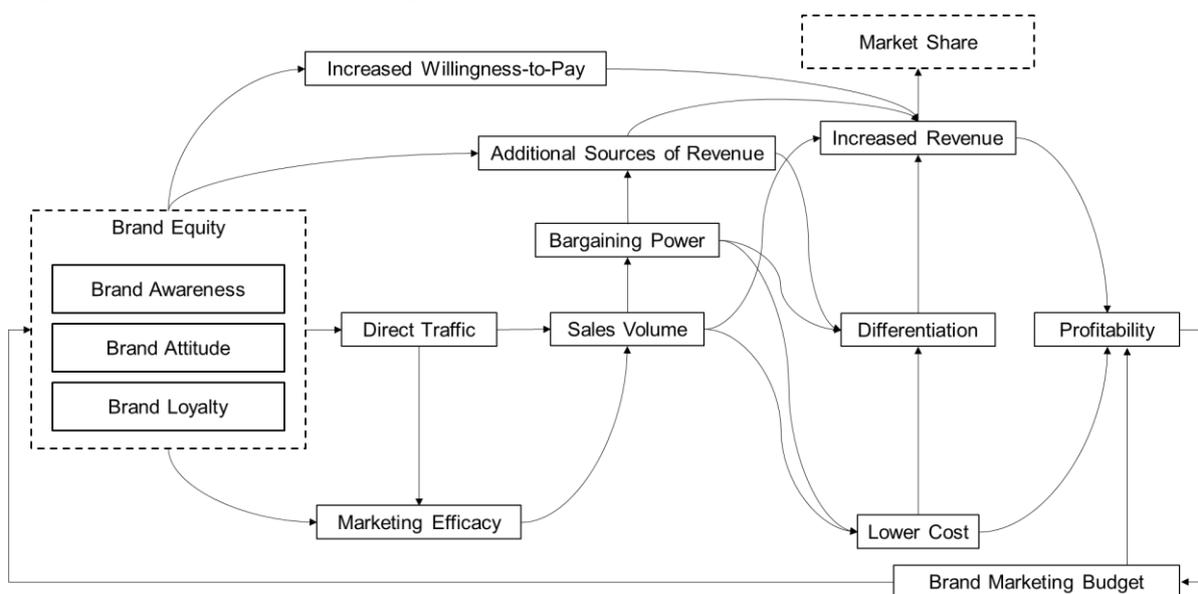
Competing mainly on price puts unknown e-tailers on the backfoot in two ways. Firstly, as consumers are willing to pay a price premium for strong brands, these online retailers are hurt by diminished sales revenues. Secondly, because weak brand e-tailers are highly dependent on marketing activities to attract customers to their online shop, almost every transaction incurs acquisition cost. In combination, unknown online retailers suffer from squeezed margins, weakening their competitiveness and restricting their strategic room for maneuver.

Furthermore, the typically considerable brand equity of the dominant players in an e-commerce market poses a substantial entry barrier. With the gradual transitioning from growth to competitive market in e-commerce, market share gains increasingly rely on winning over competitors' customers and conquering of share of mind. Market entrants therefore must invest immense amounts in branding efforts and brand awareness campaigns to conquer market share, and often must endure heavy losses for years in result.

“Of course, all the new challengers we now have are primarily interested in market share. And for them, the first step is to build up brand awareness like crazy, with far too much money. And, as we all have seen, all out-of-home spaces are plastered over with [challenger]. We wouldn't do that at all, because we always try to keep an eye on the cost-revenue ratio when it comes to marketing.” (Informant P)

Last, only very few e-commerce firms can successfully compete on price and employ a cost leadership strategy over the long-term. Although not entirely impossible, e-tailers need either considerable brand awareness or an already substantial market share to profitably compete based on price, due to the extremely large sales volumes required. Stronger brands are therefore able to gradually displace their competitors in price competitions.

Figure E-1: The Brand Equity – Market Share Cycle



Considering the above, brand equity plausibly explains how contemporary e-commerce has developed into a winner-takes-all market. Brand equity is an essential antecedent of sustainable success in e-commerce, while feeble and unknown brands inevitably suffer from low margins. The consequences are the exceptionally high market concentration and simultaneously fierce competition in e-commerce markets observable today.

6. Why Feeble E-Commerce Brands are Prisoners of a Utilitarian Shopping Motivation Trap

“With our no-name [online shop] brand, I primarily invest in Google Ads, and all the website traffic I get are people looking for a specific product and wanting the best price. But that limits my growth to the demand for these specific products, of course. Plus, I'm extremely dependent on all the advertising mechanisms, performance marketing, etc., on the part of Google. We also see that we have virtually no branded search queries.” (Informant J)

Feeble e-tailer brands are captives of a utilitarian shopping motivation trap, compounding their unfavorable competitive position. By almost entirely relying on performance marketing for customer acquisition, they mainly attract consumers with utilitarian purchase motivations (Childers, Carr, Peck, & Carson, 2001). In addition to being highly price sensitive, these customers are looking for a particular product, which manifests in lower average order amounts, but also decreased product returns. Because acquisition costs increase and margins decrease with competition, growth for these online retailers is limited up to a “glass-ceiling”, a point at which acquiring additional customers becomes unprofitable.

“On the other hand, and we currently notice this as well, there's a point in performance marketing where you reach a limit, where it doesn't pay off anymore. And then it gets really difficult, if you still want to grow. With a good and strong brand, of course, you then have other opportunities to grow.” (Informant A)

Sales activation of the existing customer base then becomes the only remaining way to profitably generate revenue and growth. This is however no easy feat due to the intense competition with stronger brands, and the risk of annoying and alienating customers through the overuse of direct marketing and price promotion advertising. Absent any unique customer benefit or the willingness to invest in brand marketing, these e-commerce firms are prisoners of a utilitarian shopping motivation trap.

D2C brands might be lesser affected by the utilitarian shopping motivation trap, as they benefit from halo effects of their strong product brand, affording higher brand awareness, increased branded search and direct traffic, and bolstered customer loyalty.

7. Zooming in on the Beneficial Consequences of Corporate Brand Equity in E-Commerce

In addition to the competitive advantage and benefits of hedonic shopping motivation, online retailers with high brand equity benefit from a multitude of additional advantages. These comprise advantages concerning the firm-customer relationship, its ability to reduce cost and increase sales revenue, as well as firm-internal benefits.

Firm Customer Relationships and Affective Loyalty

Brands are the foundation of relationships between online retailer and customer. Strong e-commerce brands improve consumer's ability to memorize and recall associations, encounters, experiences, feelings, and attitudes regarding the online retailer. This finding is well in line with the associative network memory model perspective on brands (Krishnan, 1996). Accordingly, a strong online retailer brand is better memorized and recalled, anchors various brand associations from a variety of origins in consumer minds and is as such instrumental for brand image formation.

Brand affect ensues if this brand image corresponds to the consumer's expectations, beliefs, and feelings, or, if brand and customer values align well. Similarly, if customers repeatedly have delighting experiences with the online retailer, these likewise elicit positive attitudes and emotions towards the e-tailer's brand. This applies especially if the relationship is perceived as being reciprocal, bolstering consumer motivation for mutual support, a finding in line with social exchange theory (Cropanzano & Mitchell, 2005). Over time, this may evolve into brand love, depending on the intensity and regularity of consumer-brand interactions (Batra, Ahuvia, & Bagozzi, 2012).

Such synergy then evokes affective loyalty, expressed through brand commitment, a reservoir of goodwill towards the brand, and an increased price tolerance on behalf of the customer. Fans of a given e-commerce firm have a strong commitment to the e-tailer and will favor it over other alternatives, are generally more forgiving and more accepting of less-than-optimal e-tailer performance, and are willing to pay higher prices than normally, due to their motivation to support the e-tailer.

“I mean [consider] all the discussions about purpose that have come up recently. What a brand stands for, what it advocates, is becoming more and more important. It's the same for us, for the company and the product. That's why the brand is becoming more important for the consumer because they want to know what the brand stands for, whether it corresponds to their values, and accordingly also whether they want to buy the products of this company or not.” (Informant O)

Trust

Strong e-tailer brands instill trust in consumers. This is of particular importance for winning over new customers because it decreases friction along the customer journey. The trustworthiness afforded by a well-known online shop moreover leads to an increased willingness-to-pay, since consumers are willing to pay a price premium for reducing their perceived risk. This way, trust aids e-tailer differentiation, since the brand creates trust in the e-commerce firm, and not just in the branded products it offers. A strong e-commerce brand additionally provides a reservoir of consumer trust, increasing customer goodwill in cases of service failure.

“But if I want to build customer loyalty, if I want to capitalize on customer trust, then I have to have a strong brand so that people will come back to me. And it doesn't really matter whether we're talking digital or analog. But in my opinion, to be really successful, also in e-commerce, you need a strong brand.” (Informant U)

It is important to note, however, that trust represents a necessary, but not sufficient prerequisite of customer loyalty. Trust therefore has high relevance in customer acquisition, but plays a subordinated role in customer retention and loyalty formation. Since trust can be substituted by signals of trustworthiness, as has been discussed earlier, it appears currently overemphasized in the literature. Likewise, its ability to influence market share is potentially overestimated in e-commerce practice.

Behavioral Loyalty Due to Habitualized Consumer Behavior and Mental Effort Reduction

“Online consumption is basically a permanent state of sensory overload. And the brain has to come up with appropriate energy-saving methods so that it doesn't have to spend the whole day just making decisions. It would deprive people of far too much energy. And a brand is one of these energy-saving mechanisms.” (Informant I)

Consumer habits and their motivation to reduce mental effort convincingly explain some observed behavioral loyalty resulting from online retailer brand equity. E-commerce firms should be aware of the diverging nature of both consumer strategies.

While habits are deeply ingrained and robust, sometimes even contrary to consumer intention, heuristics do not necessarily presuppose strong brand attachment, and hence may be spurious loyalty (Dick & Basu, 1994).

Consumers are creatures of habit and routinize many everyday purchase decisions (Drolet & Wood, 2017). Strong brands assist routinizing consumer behavior and habit formation, by linking cues (a need or want) with actions (e.g., browsing an online shop or placing an order) and encouraging repetition of this behavior (e.g., by providing a delighting customer experience or marketing stimuli). Over time, the consumer will respond to the cue by automatically performing the routinized action (Wood & Runger, 2016). Such consumer habits can result, for instance, in regular online shop visits or repeated purchases.

Online shoppers often seek to make life easy for themselves, particularly in low involvement purchase situations. To that end, they rely on heuristics to reduce mental effort (Shah & Oppenheimer, 2008). Well-known e-tailers benefit from consumers using such heuristics when shopping online. For example, satisficing may entice consumers to rely on mental accessibility, surfing to the first e-tailer that comes to mind, which disproportionately benefits top-of-mind e-tailers (Thelen & Woodside, 1997). Alternatively, consumers may employ a maximizing strategy by visiting price comparison websites. In such situations, consumers may then favor the marginally expensive but familiar online shop over the unknown, drawing on the recognition heuristic (Goldstein & Gigerenzer, 2002).

Increased Marketing Efficacy

E-tailer brand equity increases efficiency and effectiveness of marketing activities. Brand awareness and brand loyalty stimulate direct traffic and branded search. Additionally, brand content on the online shop can act as a form of search engine optimization and stimulate native search traffic. All this immediately reduces customer acquisition cost.

“Performance marketing works better when you have a brand that is popular than vice versa.” (Informant O)

Furthermore, strong brands benefit from synergy effects between their brand marketing and performance marketing activities, increasing its overall effectiveness. Because consumers are more inclined to click on their call-to-action buttons, strong brands experience increased conversion rates. Also, consumer familiarity with the brand also decreases suspicion, enhancing the effectiveness of price promotions.

Sending personalized marketing messages to existing customers is a particularly effective marketing activity. In this context, strong brands benefit over proportionally, because the positive attitude of their customer motivates them to pay closer attention to promotional messages. In combination with the fact that advertising to the existing customer base is generally cheaper than acquiring new customers, this further improves marketing effectiveness.

Brand Extension and Additional Streams of Revenue

Online retailers have opportunities to convert their direct customer access into supplementary sources of revenue. For example, they may open their platform for product advertising activities by producers that wish to establish new brands or boost certain products. Similarly, e-tailers might be able to negotiate performance marketing advertising allowances from product brands, since product-based advertising equally benefits the producer brand. Alternatively, they may use their brand strength to introduce private label products, profiting from their larger margins and potential for differentiation. Similarly, a strong online retailer brand could exploit various forms of brand extension, for example by offering services.

“Risks? I don't see any for a strong [e-tailer] brand. I can't think of anything right now. Rather a lot of advantages, that you can expand the brand even further, that you can monetize it for all kinds of things.” (Informant T)

Leverage Vis-À-Vis Suppliers and External Partners

Strong e-commerce brands can potentially leverage their competitive position to secure better procurement conditions or exclusive products, further consolidating their competitive position. Likewise, strong e-tailer brands may enjoy preferential treatment by advertising providers, receiving assistance to improve advertising performance, exclusive market analyses and insights, or early-access to innovative advertising technologies.

“Consequently, you have products that others do not have. You get advertising allowances, which others do not get. Which in turn you can also invest in prices or advertising. And so, this unlimited competition [in e-commerce], yes, exists in theory, but not in practice, because the producers are not interested in having so many players in the market.” (Informant F)

Employer Attractiveness and Employee Motivation

Corporate brands also have firm-internal effects. Strong brands attract talent and motivate employees. Employees that share the values of and take pride in the brand are an asset, and especially so for omnichannel retailers, where consumers encounter them as faces of the brand.

“That’s something we notice when we invest in our brand. Our employees are proud to work at [brand]. We get talked about when we have a new campaign and so on. I think all of that results in brand love. Not only with our customers, but also internally, and that’s certainly one of the big benefits of investing in the brand.” (Informant J)

8. Is there a Dark Side to a Strong Corporate Brand in E-Commerce?

With all light comes dark. A strong corporate brand can carry certain disadvantages in online retailing. The good news: The extent to which these disadvantages represent a dark side appears to primarily depend on a company’s actions.

As strong brands are more in the eye of consumers and the public, well-known e-tailers are more likely to provoke negative consumer associations and connotations, especially in cases of controversial or unethical corporate conduct. In extreme cases, consumers may even boycott certain online retailers that they don’t agree with.

Moreover, the persistence of brand images is a double-edged sword. Consumers remember associations concerning strong brands better than ones regarding feeble or new brands. In the case of negative associations, this can put a heavy burden on a strong brand. Especially so since brand images are persistent. Changing a once formed brand image in consumer mind’s is tedious, time intensive, and expensive.

“If you set yourself the goal of building a strong brand, then you also have to expand customer centricity at the same time. Or ensure it. Otherwise, you’ll have the opposite effect. If the notebook you want to give to your wife or girlfriend doesn’t arrive in time for Christmas, you’ll definitively remember that brand.” (Informant F)

As explained in the quote by Informant F, mismatches of customer expectation, brand image, and customer experience can cause severe negative consumer reactions. The severity of the reactions can be particularly dire if a consumer perceives the incident as being a breach of trust or a betrayal of their reciprocal relationship with the online retailer. Similarly, strong brands might be more direly affected by negative customer experiences because consumers have generally higher expectations and remember them

better. This can be immensely costly since customers are hasty to churn to the competition, and unlikely to return soon.

Finally, strong brands may be moreover more susceptible to negative reputational spill-over. Online retailers that are affiliated with other businesses under a shared brand name (i.e., branded house strategy), and ones that offer private label product brands are especially affected by this risk.

9. How Brand Marketing Abandonment Can Trigger a Fatal Vicious Cycle

Brand equity takes time to build and long to erode. This inertia of brand equity allows e-tailers to cut brand marketing budgets for some time without immediately apparent consequence. This can lead to a false sense of security or spur doubts on the effectiveness of brand marketing in general. Accordingly, firms may shift budgets to marketing activities that are perceived to generate revenue or might abandon brand marketing entirely – especially so if they experience financial hardship. The ensuing gradual erosion of brand equity slowly reduces positive brand-based effects and negatively impacts revenues. To ensure profitability, an online retailer might then react by cutting brand marketing budgets even further to reduce cost. Or, due to the pressure to generate revenue, the e-tailer may reallocate all marketing budget towards immediately revenue generating marketing activities. And so, a vicious circle of declining revenue and eroding e-tailer brand ensues, until the e-commerce firm finally becomes a victim of the utilitarian shopping motivation trap.

10. The Paradoxical Divide: Corporate Branding in E-Commerce Practice

The above provides a compelling argument on why online retailers should engage in corporate branding. Yet, paradoxically, many e-tailers underutilize brand marketing, despite the overwhelming agreement on the strategic importance of brand equity in e-commerce. More than half of the informants reported to either not pursue brand marketing at all (3), to currently putting little emphasis on it (2), or to engage too little in brand marketing at present (6). Moreover, nine interview partners explicitly stated to consider or to desire intensifying their brand marketing in the future. A look at the drivers, aims, and hurdles of corporate branding in e-commerce helps to understand and explain this puzzling finding.

“Many started and quit again. You’ve probably noticed that, too. So, we were basically more or less a quasi-monopolist for 2, 3 years. And as a quasi-monopolist, we were, logically, very strongly performance driven.” (Informant P)

How Competition Drives Corporate Brand Marketing Engagement in Online Retailing

The decisive reason that drives e-tailers to engage in brand marketing is competition. This can take two forms: Either, e-tailers are motivated by realizing how their competition is investing heavily and benefitting from their brand marketing activity. In this case, the primary motivation is pursuit of revenue growth. Or e-tailers are driven by the motivation to defend their market position, especially in response to menacing new market entrants. Both motivations underscore and confirm the significance of the brand strength - market share link in e-commerce.

“That’s interesting because I asked myself last year: ‘Why are the others developing better?’ We looked at the competition and said, ‘Well, they’re investing a lot there [in brand marketing].’ [...] We saw relatively quickly that, yes, they haven’t forgotten to very strongly build their brand, while also doing performance [marketing]. And to work on the brand.” (Informant N)

Correspondingly, some online retailers started investing in branding in response to increasing performance marketing costs-per-click (CPC) due to heavier competition. CPCs increase with competition since performance marketing service providers algorithmically auction each impression to the highest bidder. This is well in line with the “glass-ceiling” phenomenon.

Online Retailers’ Motivations in Corporate Brand Marketing

Generating brand awareness and differentiation from the competition were the primary brand marketing aims of the interviewed online retailers. In addition, many hope to evoke positive consumer attitudes by engaging in corporate branding. Interestingly, there seems to exist fundamental disagreement on the point whether brand marketing can stimulate revenue and growth. While eight online retailers reported their intention to increase their revenues and achieve growth through branding, just as much disagreed on the point that brand marketing can generate revenues. Furthermore, despite their heavy emphasis on customer retention, only very few reported engaging in brand marketing to generate customer loyalty or WOM.

E-tailer's motivations and their disagreement is telling and reveals the first reasons, why these e-commerce players do not engage in brand marketing as much as would be expected considering the previous. A sizeable share of decision makers seems to adhere to the belief that brand marketing in e-commerce equates creating brand awareness. Almost all of them seem to underestimate a brand's power to win customers hearts and minds, and its might in terms of instilling affective loyalty.

Why E-Commerce Firms Neglect Corporate Brand Marketing Nonetheless

The perfect storm of high cost, a revenue-dominated short-term orientation inside the firm, and doubts and uncertainty regarding the effectiveness of brand marketing, is the true reason that deters online retailers from fully tapping into brand marketing. Decision-makers perceived the substantial investment believed necessary for brand marketing as the critical barrier to engaging in brand marketing. Accordingly, the high cost of brand marketing and budgetary restrictions, forcing e-commerce companies to prioritize marketing activities, were the most often mentioned in this regard. However, only paired with the immense pressure to generate revenue and firm-internal expectations set by the affordances of performance marketing technologies, a full picture emerges.

As has become evident previously, many decision-makers are doubtful whether branding activities can indeed stimulate sales and revenue. And even if they are confident on this, they are often required to demonstrate marketing effectiveness to justify their budget and its allocation. However, measuring the success of brand marketing efforts is a sophisticated issue. Almost all informants expressed their reservations, dissatisfaction, or doubts on their brand measurement. In addition, brand measurement is mostly done in very long intervals, making it impossible to assess the effectiveness of individual marketing activities, and even the impact of individual brand campaigns in some cases. This regularly clashes with the expectations shaped by the immensely exact measurability of performance marketing. In result, some decision makers hesitate to invest in branding, others fight long uphill battles internally, and some feel reaffirmed on their critical stance towards brand marketing.

In addition to this predicament, and fairly because of it, many online retailers lack the necessary capacities and capabilities for brand marketing. Intensifying brand marketing therefore typically requires great upfront investments and effort, e.g., due to the need to train or recruit branding experts. In combination, these factors hinder online retailers from engaging in brand marketing.

11. Are Pure Online Retailer Brands More Volatile Than Omnichannel Brands?

“It has really been a learning process for me over the last few years that you can't build a brand purely based on performance marketing. You have to add a lot more to establish a brand -- especially a pure-player brand -- in the market. Why? Because there are various [market research] studies that show that pure player brands are much more volatile than omnichannel brands or brick-and-mortar brands.” (Informant N)

Some informants voiced their conviction that pure play online retailer brands are more volatile than those of omnichannel retailers. Those informants suggested that this is caused by a decreased tangibility of the brand and its corresponding customer experiences. This belief is supported by informant accounts indicating an erosion of brand equity following a scaling down of physical operations, and by accounts of informants simultaneously operating pure online and omnichannel business models.

Several other informants however did not share this sentiment, pointing out that omnichannel retailers typically have been a longer in the market and thus had a head start in terms of building brand equity. Some further argued that pure online retailers could use alternative routes for creating brand equity, although agreeing on the point that omnichannel retailers benefit from a wider range of available brand marketing tools and the billboard effect.

Omnichannel retailers therefore hold an advantage regarding brand marketing. Their stores ensure constant visibility, acting as billboards for the brand, and provide memorable physical experiences to their customers. The multimodality of in-store experiences increases ease of memory, and pleasant interactions hold the capacity to forge strong and personal customer relationships. Additionally, omnichannel retailers can draw on a wider and more diverse range of marketing tools for brand marketing.

However, the generally considerable brand awareness of omnichannel retailers can be a double-edged sword. General brand awareness does not automatically or directly translate into online shop awareness. “Brand awareness for what?”, is therefore an important question, omnichannel retailer should consider when assessing their brand. In line with affordance theory (Gibson, 2014), especially those retailers introducing an online shop shouldn't neglect making consumers aware of this new affordance of their brand. Furthermore, results substantiate earlier findings that omnichannel retailers should ensure congruent brand experiences across sales channels. Omnichannel retailers may struggle to deliver on their brand proposition, due to technical constraints or the

two-dimensional nature of the internet as a medium. Taking the unique nature of individual channels into consideration is thus an important first step to resolve such predicaments, assists in finding practical remedies, and helps ensuring consistent brand experiences.

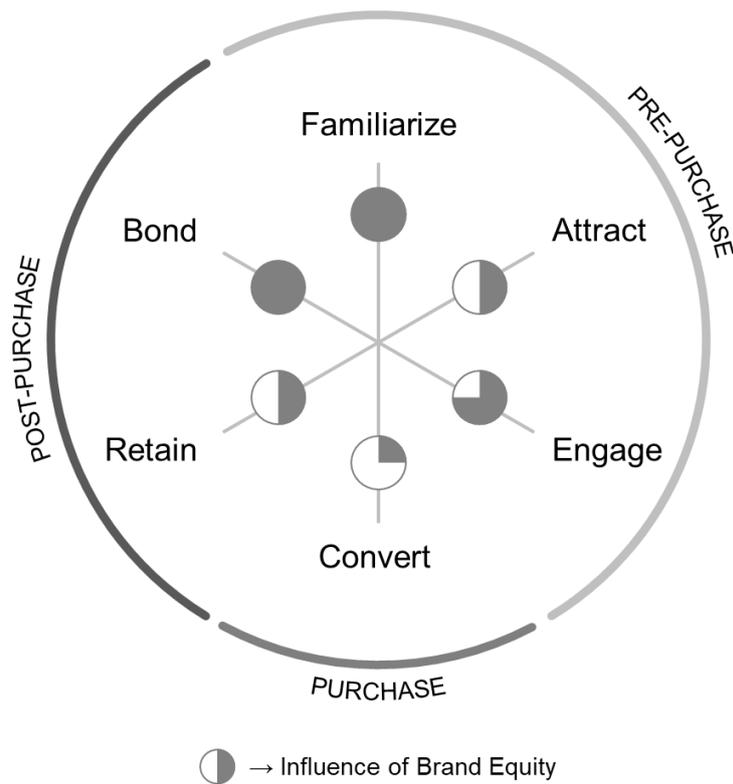
12. How E-Tailers Engage in Corporate Branding

“I think gaining attention, arousing interest, and having the brand top of mind, that's what I actually achieve with the brand. When deciding whether I buy the product in the store or online shop, other factors that have greater power or influence on decision-making are at play. The care phase actually, I've shopped and I'm thinking about shopping there again, that's fully [on the] brand again, so I agree.” (Informant J)

Findings suggest brand marketing is particularly effective at the early pre-purchase and the post-purchase stages of the customer journey. Other factors dominate at the purchase stage, although online retailer brand equity also has an impact during this stage, as has been discussed earlier. Synthesizing these insights, Figure 2 provides a framework of e-tailer brand marketing along the customer journey. It showcases the theorized influence of corporate brands throughout the customer journey in e-commerce (represented by the circles' filling) and may be particularly useful for marketing strategy and planning purposes. The framework integrates and extends the archetypical RACE (reach-act-convert-engage) practitioner framework, (Chaffey, 2022), by drawing on the customer journey frameworks by Lemon and Verhoef (2016) and Grewal and Roggeveen (2020), as well as the results of this research.

The framework takes a practitioner perspective by linking pre-purchase, purchase, and post-purchase customer journey phases to six corresponding tactical marketing goals: familiarize, attract, engage, convert, retain, and bond. The first four goals loosely correspond to the still widely popular AIDA (attention, interest, desire, action) hierarchy of effects model (Barry & Howard, 1990). Importantly, however, the framework does explicitly not assume consumers to always progress linearly through stages. In line with previous research (Barry & Howard, 1990; Grewal & Roggeveen, 2020), the circle accordingly visualizes the iterative and dynamic nature of customer journeys, while the inner lines represent how consumers may jump certain stages.

Figure E-2: Framework of E-Tailer Brand Marketing Along the Customer Journey



To familiarize consumers with their brand, many online retailers strive to build brand awareness in their target group. Substantive brand familiarity advantage can manifest as top-of-mind awareness. Moreover, consumers tend to like brands they are familiar with, due to the mere exposure effect (Bornstein & D'agostino, 1992). E-tailers can therefore achieve brand affect solely based on exposure frequency. Attracting customers is a crucial prerequisite of sales, growth, and firm performance. Many e-commerce firms typically employ performance marketing and price promotion to this end. However, strong e-tailer brands can produce a significant pull, either through stimulating direct traffic or by facilitating discovery, e.g., through relevant and informative content. E-tailer brands engage with consumers to convey advantageous brand associations, such as their brand positioning and brand values, with the aim to create positive brand attitudes. This helps to solidify the online retailer brand's share of mind and aids its differentiation from the competition. It further can provide the basis for brand affect, which is necessary for brand attachment. Converting browsers to customers is the primary aim of firms in e-commerce. Strong e-tailer brands improve conversion rates and increase order amounts, by virtue of consumers trust in them. Customer retention is a critical success factor in e-commerce, and hence eagerly pursued by online retailers. Achieving behavioral loyalty boosts overall marketing efficacy and

ultimately benefits e-tailers' bottom-lines. Therefore, it is hardly surprising that e-commerce firms employ tools such as remarketing, e-mail newsletters, price promotions, and loyalty programs to retain and reactivate their customers. Brand equity contributes by facilitating consumer's habitual behavior and unlocking benefits from their use of heuristics. Finally, establishing a strong bond between consumers and brand is a highly effective way of gaining a sustainable edge over the competition. Based on relationship marketing and consumer-brand value congruence, e-tailers can win customers hearts and minds, expressed through brand affect or even brand love. If successful, such bonds engender attitudinal loyalty and may turn customers into brand evangelists.

13. Show, then tell: Performative Branding as a Brand Marketing Strategy

"It's nice that a brand generates awareness. But trust has to be earned over the long term. And that starts with all these little things: starting with the online shopping experience, the customer experience, to the packaging. How does the product look like? How is it packaged? What's inside the parcel? We sell natural products, that means everything must be sustainable, certified. And it needs to be recognizable that it is. So, for example our wrapping paper is recyclable, we use no plastic. We only use foil made from wood fibers. And we always communicate these aspects, be it on the parcel or wherever." (Informant K)

In line with the significance of brand experiences for brand image formation, this research uncovers a novel brand marketing strategy: performative branding. Performative branding can be poignantly summarized as: "Show, then tell." Rather than relying on cost-intensive branding campaigns, making allegedly empty brand promises, performative branding aims to anchor a brand in consumer minds through sustained and consistent evocative action. It is deeply rooted in the notion of brand image, and recognizes the importance of brand experience in brand attitude formation (Brakus, Schmitt, & Zarantonello, 2009; Schmitt, 2009). Performative branding hence acknowledges that consumers receive an abundance of brand signals from diverse sources, and that brand experiences are of particular importance for consumers brand evaluation, as lived experiences are tremendously more informative than brand communication messages. Performative branding consequently aims to achieve consistency of brand positioning and customer brand image, by ensuring alignment of brand positioning, customer experiences, and external brand-related signals.

Online retailers employ performative branding consciously and unconsciously. Conscious performative branding involves deliberately designing touchpoints, signals, and customer experiences in such ways that these convey, reinforce, and anchor brand personality and values. Unconscious performative branding occurs when online retailers have a strong corporate culture, and thus widely shared and accepted corporate values, as well as a high degree of customer centricity. In such cases, this strong self-image broadly aligns corporate conduct, reducing contradictory signals, and is ultimately reflected in customer experiences. The consequently ensuing coherence of signals and experiences strongly anchors the brand in consumers' mind and generates considerably positive brand attitude.

Central Tenets of Performative Branding

I propose three central tenets of performative branding: customer proof, communicative restraint, and downplay of commercial motive. The notion of customer proof concerns the belief that demonstrating customer value and communicating brand values through action is a more effective and sustainable approach than making unsubstantiated claims and empty promises. The phrase: "Actions speak louder than words", aptly reflects this mindset.

Furthermore, since performative branding emphasizes actions, this branding strategy entails restricted brand communication. Importantly, communicative restraint does not equal forgoing brand communication entirely. Instead, customer proof precedes communication in performative branding. Hence, the brand first shows consumers what it stands for by how it acts and what experiences and value it provides, and just then communicates in reference to its actions.

Finally, performance branding often, but not always, involves some form of intentional downplay of commercial motive. By emphasizing and referencing objectively verifiable action, it aims to be an authentic measure of brand personality. For this reason, performative branding may be particularly proliferated in contexts characterized by high consumer skepticism or uncertainty.

"Flavors" of Performative Branding

Brand positioning and brand values constitute the foundation of performative branding. Corresponding brand associations can be conveyed in several ways, represented by different performative branding approaches or "flavors": experience-based, cause-related, and customer value-based.

The customer experience-based flavor is a proliferated approach to performative branding. This approach involves designing touchpoints and moments of truth in such ways that they aptly reflect the brand and impart relevant brand associations. Online retailers utilizing this flavor may, for instance, consciously design the look and feel, material and content of the parcel to reinforce its brand. In omnichannel retailing, service scripting is an illustrative application of this flavor. Providing freebies and gifts or certain types of rewards are typical expressions of downplay of commercial motives.

Cause-related engagement is another typical approach to performative branding and is particularly tied to brand values. Firms employing this flavor of performative branding actively champion causes closely connected to the brand's values through action. Importantly, this flavor strongly relies on communicative restraint and downplay of commercial motive to avoid allegations of opportunistic behavior and hypocrisy. Examples include donations, volunteer and charitable work, public educating, or political lobbying.

“Since we've been doing this every year years now, I think it also increases credibility. Because then it's not just spin, and "Oh, something bad is happening., we have to do something now so that we are well received by the customers.” Instead, we really try to keep it as authentic as possible. [...] And of course, we also want to embody the values that are important to us. And it's fair for others to see that, but you don't have to make a big deal about it.” (Informant D)

The customer value-based flavor relies on providing superior customer value in combination with frugal use of communications for brand building. This approach is especially prevalent at e-tailers employing a cost leadership strategy, providing unique customer value through unbeatable prices and speedy delivery. Communicative restraint is often tied to and justified with a “no-frills” brand personality, and downplay of commercial motive is common in promotional messaging.

Theoretical Underpinnings of Performative Branding

Performative branding exploits the power of brand congruent experiential stimuli for authentic brand building, and hence aligns with the associative memory model. Moreover, many experiential stimuli in performative branding are multimodal. Findings in sensory marketing research found multimodal stimuli improved memory (Krishna, 2012). Performative branding might be therefore a particularly effective branding strategy because it authentically conveys brand value congruent associations while simultaneously improving their memorization.

Furthermore, performative branding is closely related to brand experience, as both adhere to the experimental marketing paradigm (Schmitt, 1999). The concepts share a common understanding of the importance and substantial effectiveness of experiences in brand image formation (Brakus et al., 2009). However, whereas brand experience is concerned with consumers' perceptions of brand-related experiences, performative branding characterizes a brand marketing strategy employed by companies acknowledging the experiential paradigm.

What Performative Branding is Not

It is important to note what performative branding is *not*. To begin with, performative branding is not simply fulfilling customer expectations. Although delivering on customer expectations is a widespread motivation inspiring e-tailers to adopt performative branding, merely fulfilling expectations is not sufficient for conveying brand personality. To achieve this, brand perceptions must be conspicuous, somewhat delighting, and in congruence to brand positioning and external brand-related signals. Moreover, since action precedes communication in performative branding, it is a matter of reversed order.

Another crucial distinction must be made between performative branding, and what I call haphazard branding. As brand images can constitute with and without explicit intentions, brands can emerge haphazardly. Performative branding, regardless of whether intentionally or unintentionally, transports a brand image consistent with its deliberately defined brand personality and positioning. Haphazard branding, on the contrary, is the unintentional conveying of brand associations in *misalignment* to its intended brand positioning.

The Challenge of Visibility in Performative Branding

Performative branding comes with a noteworthy downside. Since this brand marketing strategy relies on the perceptions of its addressees, its ability to generate brand awareness primarily relies on its capability to generate substantial WOM. Performative branding may therefore not be best suited for companies with the aim of increasing brand awareness. Rather, it may be particularly suitable and effective for building strong relationships with an existing customer base. Alternatively, companies that offer superior customer value may profit from performative branding by capitalizing on WOM for customer acquisition.

Antecedents and Consequences of Performative Branding Adoption

Results of this investigation indicate that performative branding may be particularly prevalent in online retailers of smaller firm size, e-commerce firms that are active in specialized or niche markets, e-tailers that cater to a highly knowledgeable customer base, and in firms pursuing a cost-leadership strategy. Moreover, performative branding appears closely entangled with issues of trustworthiness, consumer skepticism, brand hypocrisy, and notions of overpromising. The authenticity and positive brand images facilitated by performative branding can result in brand affect and ultimately in brand love. Thereby creating affective customer loyalty and stimulating WOM. In a hyperconnected world plagued by fake news and propaganda, the importance and effectiveness of performative branding may be poised to surge in the future.

14. Discussion

Brand marketing is a powerful e-commerce marketing instrument. This research has uncovered how brand equity provides a decisive competitive advantage in e-commerce, due to its ability to considerably shift market shares over time. Findings demonstrate the causality between brand equity dimensions and e-tailer market share and reveal the corresponding underlying mechanisms. Brand strength's effectiveness in influencing market share is found to increase with competitive intensity. Accordingly, increasing brand awareness seems sufficient to generate market share gains in market environments with low competitive intensity. In highly competitive markets, however, brand attitude and brand loyalty seem to play a more decisive role. These findings provide a convincing explanation for the ubiquity of highly concentrated e-commerce markets worldwide.

Brand equity offers a range of significant advantages in e-commerce. Online retailer brand strength increases page visits of customers with hedonic shopping motivation and increases customer loyalty. In addition, strong e-tailer brands benefit from consumer habits and their tendency to reduce mental effort. All this directly increases direct type-in traffic and branded search, and thereby enable breaking through the performance marketing "glass ceiling". Moreover, strong e-tailer brands benefit from lower price sensitivity, since utilitarian shoppers are willing to pay a price premium for trustworthiness, and loyal customers exhibit increased willingness to pay.

E-commerce Marketing decision-makers generally recognize the great strategic relevance and the benefits of e-tailer brand equity. Yet, many struggle to act on this

realization, resulting in an intention-behavior gap regarding corporate branding in e-commerce. Engaging in brand marketing was found to be hindered by a dark triad of perceived cost-intensity, uncertain effectiveness, and unsatisfactory performance evaluation, that hinders and discourages decision-makers from engaging in brand marketing.

Theoretical Contributions

This research contributes to the literature by being the first to demonstrate the decisive strategic relevance of online retailer brand equity. It provides a rich account and first empirical evidence of the e-tailer brand equity – market share link and uncovers its underlying mechanisms. Further, it identified two related novel phenomena: the utilitarian shopping motivation trap and the vicious cycle of brand marketing abandonment. These two phenomena demonstrate how the neglect of brand marketing can have costly and far-reaching consequences. This investigation is moreover the first to uncover and explore upper-echelon decision-maker perceptions in e-tailer brand marketing. It revealed the existence of an intention-behavior gap regarding corporate branding in e-commerce and identified why and how it emerges. This research further explored online retailer's brand marketing practices, showcasing the effectiveness of brand marketing along the customer journey and in relation to corresponding archetypical marketing goals. Last, in taking the practitioner's perspective, this investigation uncovered and described a novel brand marketing strategy: performative branding.

Practical Implications

Based on the present findings, online retailers are well-advised to acknowledge the power of brand equity in their marketing strategy. It is moreover vital to recognize that brand marketing extends far beyond visual appearances or generating brand awareness via mass media campaigns. Brand awareness is a necessary but, in some cases, not sufficient prerequisite to e-commerce market share. In highly competitive market environments, brand image, brand attitude, and brand loyalty are critical success factors. Furthermore, e-commerce firms should be particularly wary if market entrants heavily invest in brand marketing. An affective and loyal customer base can help in fending off these challengers.

Brand marketing is highly effective, but its effects build gradually over time. Therefore, results of brand marketing initiatives may not become apparent immediately. For brand marketing to succeed, nurturing a long-term orientation and steadfast

management support are hence imperative. Moreover, brand equity's ability to increase overall firm performance may differ by individual company context. Since brand marketing can be extremely cost intensive, it can take a heavy toll on profitability, especially in the short-term. E-tailers should hence implement and regularly monitor brand marketing metrics. Utilizing cost-effective branding strategies, such as performative branding and using owned media for affective loyalty building, further helps to achieve superior marketing efficacy.

Finally, brand marketing does and should not only concern the "big fish". Brand marketing mustn't necessarily involve immense budgets and can be achieved frugally. The present findings convincingly demonstrate why even e-commerce start-ups and niche online retailers shouldn't neglect corporate brand marketing, as it can yield substantial benefits and is imperative for long-term success in this fierce market environment.

Avenues for Future Research

This investigation is a first step towards a better understanding of corporate brand effects in e-commerce. Although this research has provided a rich and in-depth treatment on online retailer corporate brands, many unknowns remain. The literature review revealed our very limited knowledge on this topic. The novel discoveries of the present research merit further exploration, confirmation, and corroboration. Additional research on brand equity and its effects in e-commerce is therefore urgently needed.

To this end, Table 3 outlines avenues for further research regarding key research directions, with the hope to stimulate urgently needed knowledge generation on this topic. This research revealed the great importance of brand equity regarding long-term firm performance. However, due to its qualitative nature, it cannot quantitatively gauge the strength of this relationship, and thus its relative importance in comparison to other marketing activities. Related to this, the results raise the question of how e-tailers can exploit the synergy effects between brand marketing and sales activation marketing, and whether these effects are moderated by context factors. This research found substantiating evidence for brand congruence effects, especially in the context of omnichannel retailing. Future research might identify and explore the underlying mechanisms of these effects. Moreover, several of the identified beneficial effects regarding physical stores and performative branding appear to be driven by multimodality. Future research is urgently needed to verify and explain these effects.

Table E-3: Research Agenda on Corporate Brands in E-Commerce

Theme	Open Questions and Avenues for Future Research
Corporate Brands in E-Commerce	<p>How strong is the association of corporate brand equity and market share in e-commerce?</p> <p>Is there a way to employ a generic brand strategy in e-commerce profitably over the longer term?</p> <p>How can e-commerce players measure and control their brand more economically and regularly?</p>
Interplay of Brand Marketing and Sales Activation Marketing	<p>How can e-tailers allocate their marketing budgets most effectively between branding and sales activation activities?</p> <p>Is the optimal balance between brand- and performance marketing in e-commerce dependent on moderating factors?</p> <p>Does brand equity increase marketing effectiveness for all channels equally?</p>
Congruence of Brand Image and Brand Positioning	<p>What are the underlying psychological mechanisms of brand congruency effects?</p> <p>Is the effectiveness of brand marketing diminished by brand image and brand identity incongruity?</p> <p>Does brand image and brand identity incongruity worsen recall?</p>
Performative Branding	<p>Are there additional flavors (approaches) of performative branding?</p> <p>Are consumers aware of performative branding strategies?</p> <p>What are consumer responses to performative branding?</p> <p>Does performative branding increase brand authenticity?</p> <p>What is the relationship of performative branding and affective brand loyalty?</p> <p>Does performative branding pre-empt allegations of hypocrisy?</p> <p>Is performative branding a viable strategy for market-leaders?</p> <p>What are boundary conditions of successful performative branding?</p> <p>Is a combination of performance marketing and performative branding a viable marketing strategy in e-commerce?</p>
Multimodality in Brand Marketing	<p>Are physical advertising and sales channels more effective due to multimodality?</p> <p>Are there additional or alternative explanations for the elevated effectiveness of physical experiences in brand marketing?</p> <p>Do physical properties (e.g., surface haptics, olfactory stimuli) of physical advertising materials influence brand perceptions?</p>

Last, the performative branding approach raises several important questions that warrant further research. These questions pertain to the suitability of the approach, how consumers perceive this branding approach and the consequences, positive and negative, it entails. In conclusion, many questions of theoretical relevance, but importantly, likewise great practical importance, call urgently for consideration. The results of this research hopefully inspire and facilitate this urgently needed further research on corporate brands in e-commerce.

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Appendices

Appendix A: Interview Transcripts

Since transcripts exceed 340 pages, anonymized and redacted interview transcripts are available for download from the Online Appendix at:

https://osf.io/pkfsw/?view_only=2cb5dc37e28844609c33cbb7478c30d9

F. CURRICULUM VITAE

Curriculum Vitae – Benjamin D. Klink

Date of Birth: 10. Oktober 1989
 Place of Birth: Ulm, Germany
 ORCID ID: [0000-0002-2341-3663](https://orcid.org/0000-0002-2341-3663)

Find me on LinkedIn



Education

09/2018 – Present *University of St. Gallen*
 Ph.D. Programme in Management

10/2016 – 12/2017 *University of Bath*
 M.Sc. International Management (with Distinction)

09/2012 – 09/2016 *University of Applied Sciences Neu-Ulm (HNU)*
 B.A. Business Studies (ECTS grade: A)

Scholarships & Research Funding

2021 – 2022 *Basic Research Fund at the University of St. Gallen*
 GFF Project Funding

2016 – 2017 *German Academic Exchange Service (DAAD)*

2013 – 2017 *German Academic Scholarship Foundation*
(Studienstiftung des deutschen Volkes)

2010 – 2012 *Stiftung Begabtenförderung berufliche Bildung (sbb)*

Vocational Training

2012 *Chamber of Commerce and Industry (IHK) Baden-Württemberg, Ulm*
 Bachelor Professional of Trade and Commerce

2009 – 2010 *ALDI Süd*
 Certified Management Assistant in Retail Business

2007 – 2009 *ALDI Süd*
 Certified Salesman

Employment History

02/2018 – Present	<i>University of St.Gallen</i> Research Assistant and PhD Student
09/2014 – 03/2015	<i>Magirus GmbH, Ulm</i> Online Marketing Intern
10/2013 – 04/2014	<i>MediCon Projekt GbR, Neu-Ulm</i> Founder & Associate
07/2011 – 08/2012	<i>ALDI Süd</i> Junior Branch Manager
01/2011 – 07/2011	<i>Caritas Illertissen</i> Community Service (in lieu of Military Service)
07/2010 – 01/2011	<i>ALDI Süd</i> Junior Branch Manager
07/2009 – 07/2010	<i>ALDI Süd</i> Apprenticeship: Management Assistant in Retail Business
09/2007 – 07/2009	<i>ALDI Süd</i> Apprenticeship: Salesman

Voluntary Engagement, Social Commitment, and Charity

	<i>St. Gallen Symposium</i>
01/2022 – 03/2022	Academic Jury Member
	<i>DocNet- Doctoral Network at the University of St.Gallen</i>
03/2021 – 03/2022	Auditor
03/2020 – 03/2021	President
08/2018 – 03/2020	Board Member - Communications
	<i>Studienstiftung des deutschen Volkes</i>
	Organizing team member of a students' conference on
10/2017 – 11/2018	Universal Basic Income
06/2015 – 06/2016	Spokesperson of region Ulm
12/2015 – 06/2016	Committee member of the Studienstiftung refugee charity appeal

07/2016	Organisational support Welcome Weekend Constance <i>ponte consult e.V. – Student Business Consultancy of University of Applied Sciences Neu-Ulm</i>
SS 2015	Member of Social Media team
WS 2013-14	Head of University Relations

List of Publications (accepted or published)

- Rudolph, T. & Klink, B. (2022). E-Commerce Marketing Mix Effects on Online Patronage: A Meta-Analysis. *EMAC Regional Conference*. Kaunas, Lithuania.
- Rudolph, T. & Klink, B. (2022). A Taxonomy of Marketing Instruments in E-Commerce. *EMAC Annual Conference*, Budapest, Hungary.
- Rudolph, T. & Klink, B. (2021). Online Patronage: Primer, Systematic Literature Review, and Conceptualization. *Proceedings of the European Marketing Academy*, 50th, (104582).
- Rudolph, T.; Klink, B. & Hoang, Michael (2021). *Der Schweizer Onlinehandel | Internetnutzung Schweiz 2021*. St.Gallen: Forschungszentrum für Handelsmanagement, ISBN: 978-3-906057-38-5.
- Rudolph, T. & Klink, B. (2021). Online Patronage: Primer, Systematic Literature Review, and Conceptualization. *EMAC Regional Conference*, Warsaw, Poland.
- Linzmajer, Marc; Klink, B.; Hauschke, Andreas & Rudolph, T. (2021). Contagious Frontline Employees: The Effect of Frontline Employee Empowerment on Online Customer Reviews. *Rostocker Dienstleistungstagung*, Rostock, Germany.
- Rudolph, T.; Klink, B.; Eggenschwiler, Matthias & Hoang, Michael (2021). *Whitepaper: Lehren aus der Corona-Krise für das Handelsmanagement*. Forschungszentrum für Handelsmanagement. St.Gallen: Forschungszentrum für Handelsmanagement.
- Rudolph, T.; Kleinlercher, Kristina; Neumüller, Kathrin & Klink, B. (2019). Immer mehr Schweizer kaufen mit dem Smartphone ein. In: *HSG Focus*.
- Rudolph, T.; Klink, B. & Scheidegger, Gianluca (2019). Dank spielerischem Wettbewerb zu mehr unternehmerischem Denken. In: *netzwoche.ch*.
- Rudolph, T.; Kleinlercher, Kristina; Neumüller, Kathrin & Klink, B. (2019): *Der Schweizer Online Handel. Internetnutzung Schweiz*. St. Gallen: Forschungszentrum für Handelsmanagement, ISBN: 978-3-906057-29-3.