

Consumer Trust:
Meta-analysis of 50 Years of Empirical Research

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ABSTRACT

Trust is one of the highly important concepts of consumer research; yet it is characterized by a striking lack of generalizations and consensus regarding the relative strength of its antecedents, consequences, and moderators. To close this important gap, the current research reports a comprehensive large-scale meta-analysis shedding light on a wide variety of the antecedents, consequences, and moderators of the individual consumer's trust and their relative importance. Empirical generalizations are based on 2,147 effect sizes from 549 studies across 469 manuscripts in numerous disciplines, representing a total of 324,834 respondents in 71 countries over a five-decade span (1970–2020). The key findings are thus that 1) integrity-based (vs. reliability-based) antecedents are more effective in driving trust, and 2) trust is more effective in improving primarily attitudinal (vs. primarily behavioral) outcomes. Moderation analyses unpack further heterogeneity. Notably, both integrity-based and reliability-based antecedents have become stronger drivers of consumer trust in recent years. Theoretical and practical contributions are discussed in addition to advancing important future directions.

Keywords: consumer trust, meta-analysis, empirical generalizations, brand trust, trustworthiness, customer trust, integrity, reliability, firm trust, company trust

Trust is one of the highly important concepts of consumer research. Trust is crucial in all aspects of our daily lives, such as commercial and social transactions, because it reduces perceived uncertainty regarding intentions and capabilities of other entities. Past research in marketing recognizes the significance of trust—albeit with a slightly richer tradition in the B2B setting, from extensive study of the nature of trust between business customers, to the point that two meta-analyses on that topic have emerged (Geyskens et al. 1998; Palmatier et al. 2006). Given the synthesized and illustrious evidence accumulated in the B2B setting, it is puzzling that no systematic meta-analysis was conducted on the nuanced role of the individual consumer’s trust.¹

Lack of generalizations and consensus regarding drivers of consumer trust is especially striking in today’s business climate, because several notable industry reports underscore the fact that consumer trust in firms, brands, businesses, and organizations has been on a steep decline for decades. For example, the percentage of brands that US consumers said they trusted declined dramatically from 44% in 2001 to only 18% in 2017 (Millward Brown 2018). Additionally, the most recent Gallup (2023) poll documented that Americans’ confidence in big businesses has plunged to the point that a worrying 86% of consumers do not have a lot of confidence in big businesses. What can marketers do to improve consumer trust? Our research offers insights into this critical issue by providing answers to the following questions:

RQ1: What is the (relative) impact of a broad set of antecedents of consumer trust?

RQ2: Under what conditions do antecedents of consumer trust become more effective?

An important and related question is: What does consumer trust lead to? Examining drivers of consumer trust is practically more relevant (and perhaps more intriguing)—and is the focus of

¹ We acknowledge that there have been meta-analytic studies on the role of consumer trust in specific contexts (e.g., Kim and Peterson’s 2017 study of the role of online trust in e-commerce); yet such studies are context-specific, smaller in scale, and their conclusions might not be generalizable to consumer trust in other settings or across settings. We also acknowledge Khamitov et al.’s 2019 study meta-analyzing the link between brand relationships and customer loyalty that 1) focuses only on trust towards a single, specific entity (brand), 2) does not study any brand-trust antecedents, 3) explores a single brand-trust consequence (customer brand loyalty), and 4) includes fewer effect sizes (216).

our study—but we also synthesize past research on outcomes of consumer trust in additional analyses to address our third research question:

RQ3: What is the (relative) impact of consumer trust on a broad set of downstream consequences?

Overall, our meta-analysis of 2,147 individual effects derived from 549 studies across 469 manuscripts from 1970 to 2020 offers generalizable insights into antecedents and consequences of consumer trust, along with future implications. The work provides a big-tent investigation of consumer-trust research that highlights its multi-disciplinary nature using the meta-analytic lens.

CONCEPTUAL FRAMEWORK

Consumer trust is defined as “a consumer’s confidence in [...] reliability and integrity” of the target of trust (De Wulf et al. 2001, p. 36). In order to identify drivers of consumer trust, it is important to consider what trust consists of. While there are small differences in how consumer trust is conceptualized in past research, it is commonly accepted that it encompasses consumers’ beliefs about how reliably and with integrity an entity would deliver on its stated promise(s) (Garbarino and Johnson 1999; McKnight et al. 2002). Thus, factors that drive inferences of an entity’s reliability or integrity are particularly relevant in generating consumer trust. That is, a systematic classification of prior consumer trust literature simply cannot be considered complete without accounting for both integrity-based trust antecedents (IBTA) and reliability-based trust antecedents (RBTA). Theoretical support for this underlying grouping can be found in numerous seminal consumer trust papers: intentions towards the consumers vs. reliability (Delgado-Ballester and Munuera-Alemán 2001), benevolence and integrity vs. ability and dependability (Sirdeshmukh et al. 2002), honesty vs. reliability and safety (Chaudhuri and Holbrook 2001), can be counted on to be good to the consumer vs. confidence and reliability (Garbarino and Johnson 1999), and behaving in the long-term interest of the customer vs. confidence and reliability

(Crosby et al. 1990).^{2,3} Furthermore, our review of past studies on consumer trust led us to two general groups of outcomes associated with consumer trust: primarily attitudinal consequences (PAC) and primarily behavioral consequences (PBC).

After determining general groups of antecedents and consequences based on past research, we chose specific antecedents and consequences based on a) how frequently a construct appears in past research on individual consumer's trust, and b) whether a construct fits our theoretical framework (e.g., IBTA or RBTA for antecedents).⁴ Therefore, we objectively focus on the most prevalent antecedents and consequences of consumer trust, as determined by past research. In doing so, in accordance with Palmatier et al. (2006), we retain antecedents that appear in at least 10% of the past studies on consumer trust.⁵

These considerations led us to eight antecedents of consumer trust: IBTA include three constructs (attachment, ethicality and social responsibility [SR], reputation) and RBTA encompass five constructs (marketing investments, perceived value, competence, perceived risk, perceived quality).⁶ For the nine consequences in our study, PAC include five constructs (self-concept connection, evaluation, engagement, attitudinal loyalty, satisfaction) and PBC have four

² As can be seen in our discussion of prior literature, different labels have been used to refer to similar and/or closely related components of trust (e.g., reliability, capability, ability). We acknowledge that there might be slight conceptual differences between these constructs. We utilize the integrity vs. reliability dichotomy, which, in our view, most succinctly and parsimoniously represents the literature on consumer trust across different domains.

³ It should be noted that some perspectives on trust place more emphasis on the inherent characteristics of the trusting entity (e.g., propensity to trust in the literature on *individual* trust). In the current work, following a large body of research on *consumer* trust, we view trust as a temporary state experienced by consumers when they examine brands, products, services, etc., rather than a stable personality trait. This perspective is pertinent to practitioners, for it focuses on antecedents that business entities can modify to enhance consumer trust. Thus, we do not examine factors that are related to the stable nature of trust that practitioners have little or no influence over (e.g., consumers' general propensity to trust).

⁴ On the basis of these two criteria, for instance, we excluded perceived warmth (appeared in less than 2% of the past studies on consumer trust) and familiarity/experience (lack of fit with our theoretical framework).

⁵ Using the 10% threshold led to fewer consequences compared to antecedents (seven vs. eight). To have more balance between the number of antecedents and consequences, and to provide more insights with respect to different marketplace outcomes tied to trust, we also included the next two commonly studied consequence variables: market performance and willingness to pay.

⁶ Our assignment of certain antecedents to IBTA vs. RBTA is based on the *primary* mechanism in the literature. Our framework is not meant to suggest that a variable categorized as IBTA (RBTA) has no impact at all on the reliability (integrity) trust aspect.

constructs (behavioral loyalty, willingness to pay, purchase intention, market performance).⁷

In Web Appendix (WA) A, we define and describe these constructs, report their common aliases, and highlight sample studies that examined their respective relationship with consumer trust. Figure 1 illustrates our theoretical framework. We next briefly discuss how and why the antecedents fit within the two buckets and how they affect consumer trust (for a more detailed review of research on drivers of consumer trust, see WA B). The discussion on the relationships between consumer trust and its consequences can be found in WA C.

Antecedents of Consumer Trust

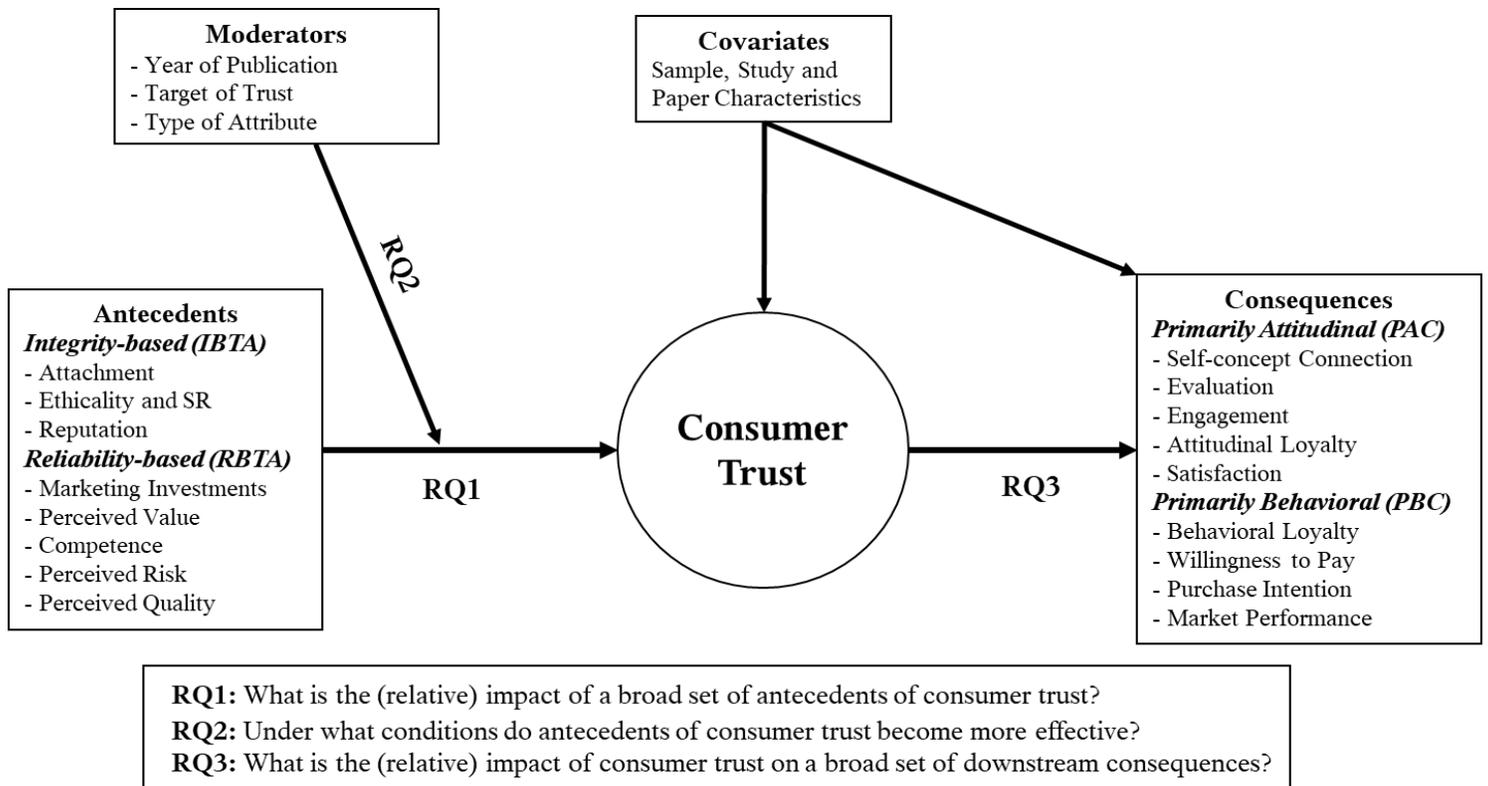
Turning to how the eight underlying antecedents fit within the two buckets and in turn drive consumer trust, we start with the three IBTA. Through ongoing encounters and interactions, consumers often form a connection with the business entity and develop *attachment* to the entity, which has been shown to impact consumer trust (Bidmon 2017) by affecting consumers' perceptions of the sincere relational motives of the cherished entity (Khamitov et al. 2019).

Growing consumer consciousness in the 21st century has encouraged businesses to focus on *ethicality and social responsibility* (SR). The ethicality of a business entity (i.e., the commitment to doing the right thing) and investments in CSR activities influence consumers' trust by signaling to them that the entity is moral, honest, benevolent, less likely to cheat, and likely to be of high integrity (Diallo and Lambey-Checchin 2017). Relatedly, the *reputation* of a business entity—being highly respected and getting known for having the consumer's best interests at

Figure 1 – Theoretical Framework

⁷ To further justify the categorization of trust consequences/outcomes as primarily attitudinal vs. primarily behavioral, we refer the reader to past research like Chaudhuri and Holbrook (2001), Boonlertvanich (2019), Liu et al. (2021) or Geçtil and Zengin (2013) where this attitudinal vs. behavioral distinction is apparent and central.

We also caution that our framework does not suggest that trust would never drive any of our antecedents, such as attachment and/or reputation. To assign a construct to antecedents or consequences of consumer trust, we relied on past research and determined its role in the nomological framework based on the majority of the past research. Resultantly, our antecedents and consequences were used in the same role in more than 80% of past research. As such, our focal relationship specification between constructs represents a better-fitting depiction of the extant literature (and not a universal depiction).



heart—has been shown to significantly enhance consumer trust (Johnson and Grayson 2005).

In terms of the five RBTA, businesses invest in various marketing activities to create and communicate value and expertise to their consumers. Different forms of sale-independent *marketing investments* influence consumer trust through conveying capability (e.g., signaling superiority; Rajavi et al. 2019). *Perceived value* has been shown to affect consumer trust by making consumers presume that the entity has the reliability and resources to come up with offerings that provide superior value to them (Wu and Huang 2023).

Consumers' interactions with a business entity, and the information that consumers obtain via different sources (e.g., news, social media) affect customers' beliefs about *competence*, *perceived quality*, and *perceived risk* of these entities. *Competence* affects consumer trust by influencing perceptions regarding the entity's ability to deliver and reliably satisfy consumers' needs (Sung and Kim 2010). *Perceived quality* drives trust by enhancing perceptions regarding

the overall excellence of an offering and improving public assessments of its attributes (Hennig-Thurau et al. 2001). Finally, *perceived risk* can erode consumers' beliefs regarding the likelihood that the business entity will reliably fulfill its promises, because an entity that increases perceived risk for consumers sends negative signals about its ability to deliver (Pappas 2016).

According to the considerable amount of work focused on morality in the marketplace (Campbell and Winterich 2018; Grayson 2014; Philipp-Muller et al. 2022), a vast majority of ordinary consumers are guided by moral beliefs and intuitions in the marketplace, with a huge importance placed on marketplace actors acting responsibly and with integrity, making integrity-related levers particularly influential when it comes to consumer trust. We thus posit antecedents based on integrity, on average, outperform antecedents based on reliability in driving trust.

Moderators

In light of the seeming evidence that consumer trust has undergone dramatic changes in recent times (Edelman 2021; Gallup 2022; Khamitov et al. 2019), we utilize *year of publication* to examine how the impacts of trust antecedents have changed recently. Additionally, given that the research in the consumer-trust domain has evolved from an early focus on brands and firms (Garbarino and Johnson 1999) to encompass trust towards specific offerings (Johnson and Grayson 2005), industries (Diallo and Lambey-Checchin 2017), and even technologies (Kim and Peterson 2017), we include a *target of trust* moderator to unpack this heterogeneity. Lastly, as extant work hinted at the potential moderating role of search, experience, and credence attributes in the context of consumer trust (Pan and Chiou 2011), we employ a *type of attribute* moderator.

DATA AND METHODOLOGY

Overview of Data Collection and Coding Procedure

To ensure extensive coverage of articles that examined drivers or consequences of the individual

consumer's trust, we systematically searched several databases, including Google Scholar, ProQuest, EBSCOhost, and Web of Science. We used individual keyword phrases and their combinations such as "consumer trust", "firm trust", "customer mistrust", etc., to identify studies related to consumer trust (see WA D for the complete list of keywords). We also manually reviewed leading journals in marketing and other disciplines to uncover additional work. We retained studies that 1) examined the individual consumer's trust rather than an organization's, 2) were published between 1970 and 2020, 3) had an empirical focus, and 4) reported sufficient information for direct use or indirect computation of our focal effects. We also made an effort to incorporate unpublished work ("file drawer") by soliciting unpublished manuscripts in a blind, anonymous, confidential manner via the Association for Consumer Research's ACR-L and American Marketing Association's ELMAR listservs over a period of four weeks. This led to a final sample that includes 2,147 effect sizes from 549 studies across 469 manuscripts, representing a total of 324,834 respondents in 71 countries over a five-decade span.⁸ Our benchmarking review of consumer research suggests that our final dataset's scope and magnitude compare very favorably to those of other recent meta-analytic datasets (290 studies in Khamitov et al. 2019; 141 studies in Weingarten and Goodman 2021).⁹

Following other meta-analytic studies (e.g., Gremler et al. 2020; Palmatier et al. 2006), we use Pearson's correlation coefficient as the focal effect size metric in our study. As needed, we employed conversion formulas to transform other available statistics into correlation coefficients (Lipsey and Wilson 2001). We adjusted the effect sizes for measurement error using the square root of the products of the reliabilities of the two constructs, i.e., consumer trust and its

⁸ Of the overall sample, 983 effect sizes from 347 studies across 310 manuscripts correspond to antecedents of trust, while 1,164 effect sizes from 459 studies across 414 manuscripts capture consequences of trust.

⁹ A full list of included papers is available here: https://researchbox.org/1335&PEER_REVIEW_passcode=YPKQTP

respective antecedent or consequence (Hunter and Schmidt 1990). Finally, we weighted the resulting reliability-adjusted correlations by sample size (Hunter and Schmidt 1990). For a detailed description of our data collection (i.e., literature search, inclusion criteria, PRISMA flow chart of the screening process and outcomes, coding procedure, control variables), see WA D.

Methodology: Hierarchical Linear Modeling

Following Raudenbush and Bryk's (2001) recommendation, we specify a three-level hierarchical linear model (HLM) that accounts for the nested structure of data. The first level represents observations belonging to each study (i.e., the within-study effect sizes), the second level stands for different studies belonging to a paper, and the third level incorporates the distinct papers in our dataset. In our HLM model with maximum-likelihood estimation, the dependent variable represents adjusted and weighted effect sizes (correlations). The focal independent variables are 8 dummies corresponding to the 8 antecedents of consumer trust (RQ1). Following Gremler et al. (2020), for each effect size, we set all dummy variables to 0, except the dummy variable corresponding to the antecedent of consumer trust, whose correlation the focal effect size is capturing (it gets a value of 1). We also control for several sample-, study- and paper-level characteristics that we briefly discuss in the Discussion section. Additionally, we present the moderator subgroup analyses (year of publication, target of trust, type of attribute) to decompose heterogeneity (RQ2). In WA E and WA F, we detail our model specifications as well as robustness checks and publication bias analyses/corrections. We use a similar three-level HLM to examine the consequences of consumer trust.

RESULTS

Antecedents of Consumer Trust (RQ1)

The antecedent results appear in Table 1. The focal effects are robust to inclusion or exclusion of

covariates in models A0 and A1. We focus on the results from the Full Model (A1).

Table 1 – Results for Antecedents of Consumer Trust

	A0: Partial Model (Without Covariates)			A1: Full Model (With Covariates)		
	k ^ψ	Coef.	SE	k ^ψ	Coef.	SE
Antecedents of Consumer Trust						
<i>Integrity-based (IBTA)</i>						
Attachment	66	.421***	.029	66	.408***	.030
Ethicality and SR	152	.433***	.032	152	.426***	.032
Reputation	85	.461***	.030	85	.460***	.031
<i>Reliability-based (RBTA)</i>						
Marketing Investments	96	.267***	.033	96	.256***	.032
Perceived Value	181	.355***	.023	181	.353***	.021
Competence	70	.209*	.087	70	.209*	.087
Perceived Risk	184	-.119	.073	184	-.120	.073
Perceived Quality	149	.408***	.034	149	.407***	.034
<i>Covariates</i>						
Country (US or not)				983	.031	.027
Gender (% male)				983	-.0003	.001
Age of Respondents				983	.001	.003
Year of Publication				983	.006**	.002
Lab Study Dummy				983	-.015	.039
Retrospective Measure Dummy				983	.036	.049
Single-dimension Trust Dummy				983	-.056	.029
Student Sample Dummy				983	-.011	.038
Average IBTA Effect	303	.438***	.021	303	.432**	.021
Average RBTA Effect	680	.355***	.014	680	.353**	.014
Number of Effect Sizes	983					
Deviance (-2*log-likelihood)	185.6			171.3		

* $p < .05$; ** $p < .01$; *** $p < .001$; ψ : number of effect sizes. Although the reported coefficients are unstandardized, because the effect size captures correlations, magnitude of estimates are directly comparable across the antecedents of consumer trust. Robust standard errors are reported. For the shaded rows, we combined the absolute effect sizes for the three integrity-based (the five reliability-based) antecedents to construct the aggregate variables. For the aggregate analyses presented here and in subsequent analyses, we utilize absolute values of effect sizes since some effect sizes are positive and others are negative. The estimates for the covariates and the deviance values are based on models with the eight antecedents included.

Most importantly, when we compare aggregated integrity-based antecedents with aggregated reliability-based ones, we observe a stronger magnitude for integrity-based antecedents ($b_{IBTA} = .432$, $SE = .021$ vs. $b_{RBTA} = .353$, $SE = .014$, $p = .002$). That is, integrity-based antecedents have stronger influence on consumer trust than reliability-based antecedents. Thus, the most important aspect of trust building is establishing and conveying integrity and honesty aligned with morality

in the marketplace stream (Campbell and Winterich 2018; Grayson 2014; Philipp-Muller et al. 2022), central premise of which is that consumers perceive and care about the business morality.

When looking at specific antecedents of trust, reputation emerges as the strongest driver ($b = .460$, $SE = .031$, $p < .001$), followed by ethicality and SR ($b = .426$, $SE = .032$, $p < .001$).

Reputation is likely the strongest driver of consumer trust, since reputation is and has for a while been the most valuable marketplace currency according to the notion of reputation economy (Rifkin, Corus, and Kirk 2022), which underscores that the consumption marketplace is an environment where trust toward firms and brands is built on reputational considerations of track record and the promise(s) they deliver. The ethicality and SR results are in line with the importance and relevance of moral theories and concepts in marketplace environment (Diallo and Lambey-Checchin 2017) and are consistent with the theme of a recent issue of *JCP* on marketplace morality (Campbell and Winterich 2018).

The next three antecedents, while relatively weaker in terms of their strength, also emerge as strong and positive: attachment ($b = .408$, $SE = .030$, $p < .001$), perceived quality ($b = .407$, $SE = .034$, $p < .001$), and perceived value ($b = .353$, $SE = .021$, $p < .001$). Attachment's strong effect reinforces consumer-brand relationship theory as it pertains to attachment figures (Khamitov et al. 2019). The quality finding reinforces the relationship marketing theories (Palmatier et al. 2006), whereas the relatively strong positive effect for perceived value highlights the importance of ensuring that consumer needs and wants are fulfilled. Marketing investments ($b = .256$, $SE = .032$, $p < .001$), competence ($b = .209$, $SE = .087$, $p = .016$), and the non-significant perceived risk ($b = -.120$, $SE = .073$, $p = .102$) are the weakest drivers of consumer trust. The last finding is especially surprising given that risk is traditionally strongly linked to trust in the extant consumer-trust literature (e.g., Elliott and Yannopoulou 2007). This outcome suggests that the

identified risk is a weaker determinant of trust than expected, likely because a vast majority of consumption situations in our meta-analytic dataset entail minimal levels of risk¹⁰, hence risk-reducing capability may not be particularly relevant when it comes to driving trust.¹¹

Moderating Conditions (RQ2)

Trust across time. We conducted the year of publication moderation analyses on antecedents of consumer trust by comparing meta-analytic coefficients in recent studies (published after 2015) versus older studies (published before 2015).¹² We conjectured that the change in trends in older vs. more recent studies would be manifested in the future: antecedents that have recently become stronger determinants of trust will continue to play an even more important role in the future. We present the detailed results in Table 2. We find that the magnitude of the effectiveness of IBTA ($p = .031$) and RBTA ($p = .033$) have both significantly increased over time, although less so for the RBTA. That is, different antecedents of trust are more effective in driving consumer trust in today’s marketplace than in the past. This outcome is consistent with the observation of consumer scholars that the roles of trust and other consumer relationship constructs have strengthened over time (Khamitov et al. 2019) and is a silver lining for practitioners and managers who strive to enhance trust.

Table 2 – Change in Effectiveness of Antecedents of Consumer Trust Across Time

Aggregated Antecedents	<i>b</i>_{after2015} (SE)	<i>b</i>_{before2015} (SE)	<i>b</i>_{after2015} - <i>b</i>_{before2015} (<i>p</i>-value)
IBTA	.485 (.025)***	.419 (.017)***	.066 (.031)*
RBTA	.395 (.022)***	.341 (.012)***	.054 (.033)*

* $p < .05$; ** $p < .01$; *** $p < .001$; Because inclusion of covariates did not influence the findings in our main analysis (see Table 1), we did not include covariates. Absolute values of effect sizes were used in aggregating antecedents to IBTA and RBTA.

¹⁰ Our follow-up interaction analysis based on low vs. high level of financial risk suggests that risk does not influence trust in the low-risk subset ($b = -.101, p = .186$), whereas in the high financial risk subset, the effect of risk is substantial ($b = -.592, p < .001$). Relatedly, while in the low physical risk subset the impact of risk on trust is $b = -.102 (p = .176)$, the influence of risk on trust is much stronger under high physical risk ($b = -.355, p = .038$).

¹¹ We present pairwise significance tests across coefficients of antecedents (and consequences) in WA G.

¹² The 2015 year of publication threshold leads to a good balance of effect sizes for recent and older studies, as well as allowing us to focus specifically on the most recent studies that are pertinent to understanding what the future might look like.

We report the results for each specific antecedent in WA H. Interestingly, we find that marketing investments have grown in importance in recent years (although in a marginally significant way: $p=.098$), which is a testament to the continued effects of the positive signals that marketing mix instruments convey (Rajavi, Kushwaha, and Steenkamp 2019).

Target of trust. Target of trust plays an important role when it comes to the relative influence of antecedents on consumer trust (Table 3). We focus primarily on big-picture differences in (magnitude of) effects of drivers of trust by comparing average IBTA vs. RBTA effects. Though on average there is no significant difference in the strength of effects of IBTA versus RBTA for specific offerings and technologies, IBTA are significantly more effective in driving trust toward brands/firms and industries as compared to RBTA. Being intangible entities, brands are increasingly viewed by many consumers as a series of normatively binding expectations that are ethically akin to brand promises (Bhargava and Bedi 2022) and are expected to be honest and well-intentioned relational agents (Khamitov et al. 2019), making it easier to drive trust by conveying integrity. As for industries, because a number of industries (fuel and energy, banking, aviation, tobacco, and alcohol) over the years have left consumers with the impression that some industries lack integrity (Darke and Ritchie 2007), if and when a certain industry can convince consumers of its moral uprightness, such efforts are particularly effective in driving trust.

Table 3 – Split-sample Analysis of Antecedents of Consumer Trust Based on Type of Trust Entity

Aggregated Antecedents	Trust Entity							
	Brand/Firm		Specific Offering		Industry		Technology	
	Coef. (SE)		Coef. (SE)		Coef. (SE)		Coef. (SE)	
Average IBTA Effect	.45 (.02) ^{***}	$p=$	.43 (.03) ^{***}	$p=$	.59 (.03) ^{***}	$p<$	.27 (.04) ^{***}	$p=$
Average RBTA Effect	.36 (.02) ^{***}	.002 ^{**}	.44 (.03) ^{***}	.970	.29 (.02) ^{***}	.001 ^{***}	.34 (.02) ^{***}	.054
Number of Effect Sizes	283		132		143		291	

* $p < .05$; ** $p < .01$; *** $p < .001$; ψ : number of effect sizes. For average IBTA and RBTA effects, we focused on absolute value of effect sizes. Because inclusion of covariates did not influence the findings in our main analysis (see Table 1), we did not include covariates. Out of 983 effect sizes for antecedents, we were not able to categorize 134 of them into any of the above four categories (e.g., target of trust was an employee). A full table with estimates for each antecedent is presented in WA H.

Comparing average IBTA and RBTA effects across different entities is also worthwhile. While there is no significant difference in IBTA effects across brands/firms and specific offerings (all pairwise p -values $>.10$), IBTA are significantly stronger (weaker) in driving trust towards industries (technologies). This implies a particularly strong role for industry integrity (aligned with the discussion above), which is unlike the relatively weaker technology benevolence mandate. Also, while RBTA are similarly effective in driving trust towards brands/firms and technologies (all pairwise p -values $>.10$), they are stronger (weaker) in driving trust towards specific offerings (industries). We conjecture that unlike with other trust entities, consumers' responses to specific product/service offerings are influenced more heavily by an offering's perceived practical and functional reliability in meeting their requirements.

Type of attribute. We performed the type of attribute moderator analyses by comparing IBTA and RBTA meta-analytic coefficients for not-search vs. search, not-experience vs. experience, and not-credence vs. credence attributes. We provide the results in Table 4. There is only one statistically significant difference: the magnitude of the effectiveness of IBTA is significantly stronger for non-experience attributes than for experience attributes ($p = .006$). That is, if quality or other characteristics remain unknown until consumption (i.e., experience attributes), whether a good has higher or lower integrity is unlikely be diagnostic when it comes to trusting the good.

Table 4 – Analysis of Antecedents of Consumer Trust Based on Type of Attribute

Aggregated Antecedents		<i>Not-Search (1) vs. Search (2)</i>		<i>Not-Experience (1) vs. Experience (2)</i>		<i>Not-Credence (1) vs. Credence (2)</i>	
		Coef. (SE)		Coef. (SE)		Coef. (SE)	
Average IBTA Effect	(1)	.44 (.02) ^{***}	$p=$	.48 (.02) ^{***}	$p=$	.45 (.02) ^{***}	$p=$
	(2)	.45 (.03) ^{***}	.823	.40 (.02) ^{***}	.006 ^{**}	.43 (.03) ^{***}	.637
Average RBTA Effect	(1)	.36 (.01) ^{***}	$p=$	.33 (.02) ^{***}	$p=$	.36 (.01) ^{***}	$p=$
	(2)	.34 (.02) ^{***}	.323	.37 (.01) ^{***}	.061	.35 (.02) ^{***}	.704

* $p < .05$; ** $p < .01$; *** $p < .001$; Because inclusion of covariates did not influence the findings in our main analysis (see Table 1), we did not include covariates. Absolute values of effect sizes were used in aggregating antecedents to IBTA and RBTA.

Put differently, if the consumer can evaluate a good only by way of experience, communicating

integrity and ethicality may not be that meaningful for trust-building (Grabner-Kraeuter 2002).

Consequences of Consumer Trust (RQ3)

When we compare aggregated primarily attitudinal consequences with aggregated primarily behavioral ones in Table 5, we observe a stronger magnitude of effect for attitudinal consequences ($b_{PAC} = .431$, $SE = .010$ vs. $b_{PBC} = .353$, $SE = .015$, $p < .001$), which makes sense because behavioral outcomes are further down the purchase funnel and might be strongly affected by other variables (e.g., price, availability, etc.), hence lowering the overall importance of trust in driving them. This finding reinforces the hierarchy of effects and attitude-behavior gap theories (Barry and Howard 1990). When it comes to individual consequences of trust, the most notable results are for satisfaction ($b = .494$, $SE = .027$, $p < .001$; top consequence) and attitudinal loyalty ($b = .404$, $SE = .014$, $p < .001$; third strongest consequence), which are in line with the classic tripartite relationship quality theory (Fletcher et al. 2000).

Table 5 – Results for Consequences of Consumer Trust

	C0: Partial Model (Without Covariates)			C1: Full Model (With Covariates)		
	k ^ψ	Coef.	SE	k ^ψ	Coef.	SE
Consequences of Consumer Trust						
<i>Primarily Attitudinal (PAC)</i>						
Self-concept Connection	70	.356***	.036	70	.350***	.037
Evaluation	85	.455***	.042	85	.440***	.033
Engagement	97	.398***	.030	97	.399***	.030
Attitudinal Loyalty	377	.406***	.014	377	.404***	.014
Satisfaction	174	.495***	.026	174	.494***	.027
<i>Primarily Behavioral (PBC)</i>						
Behavioral Loyalty	57	.265***	.062	57	.264***	.063
Willingness to Pay	27	.267***	.046	27	.265***	.046
Purchase Intention	249	.382***	.021	249	.377***	.022
Market Performance	28	.315***	.030	28	.314***	.030
<i>Covariates</i>						
Country (US or not)				1,164	.004	.029
Gender (% male)				1,164	.0001	.001
Age of Respondents				1,164	-.001	.002
Year of Publication				1,164	.002	.001

Lab Study Dummy				1,164	.069	.040
Retrospective Measure Dummy				1,164	-.040	.043
Single-dimension Trust Dummy				1,164	-.085***	.022
Student Sample Dummy				1,164	-.065	.046
Average PAC Effect	803	.434***	.010	803	.431***	.010
Average PBC Effect	361	.357***	.015	361	.353***	.015
Number of Effect Sizes	1,164					
Deviance (-2*log-likelihood)	-137.4			-152.8		

* $p < .05$; ** $p < .01$; *** $p < .001$; ψ : number of effect sizes. Although the reported coefficients are unstandardized, because the effect size captures correlations, the magnitude of coefficient estimates is directly comparable across the consequences of consumer trust. Robust standard errors are reported. For the shaded rows, we combined the absolute effect sizes for the five attitudinal-based (the four behavioral-based) consequences to construct the aggregate variables. The estimates for the covariates and the deviance values are based on models with the nine consequences included.

GENERAL DISCUSSION

Trust remains the most important currency in lasting relationships.... In times of turbulence and volatility, trust is what holds society together. (Edelman “Trust Barometer” 2021)

Theoretical and Practical Contributions

Closing the consumer trust gap. Over the last five decades, numerous articles from various disciplines have expanded our understanding of the individual consumer’s trust. Although the extant research demonstrates the crucial role played by consumer trust, no consensus has been reached regarding which antecedents and consequences of the individual consumer’s trust are most powerful. Furthermore, a vast majority of such studies employ a singular focus, context, operationalization, and/or sample and, hence, have been unable to examine conditions under which antecedents of consumer trust become more rather than less effective. The present research is the first to systematically investigate the antecedents and consequences of consumer trust, as well as important moderators across a very broad body of multidisciplinary work, and to shed light on the differential strength of these antecedents and consequences. In so doing, we advance the extant literatures on both consumer trust (Chaudhuri and Holbrook 2001; Darke and Ritchie 2007; Engeler and Barasz 2021; Sirdeshmukh et al. 2002) and empirical generalizations in consumer research (Weingarten and Goodman 2021; Khamitov et al. 2019).

Integrity over reliability. From a practical standpoint, the empirical generalizations distilled by the current research can and should be used as managerial benchmarks when it comes to driving and benefiting from consumer trust. For instance, managers are encouraged to prioritize establishing integrity over conveying reliability, to strategically prioritize top drivers of consumer trust (e.g., reputation, ethicality and SR, perceived quality, attachment), and to allocate resources accordingly. Such an approach is warranted, as businesses typically have limited resources, which is why effective trust-building approaches are critical. To this end, in WA H, we also provide granular trust-driver results that can be used by managers in charge of a brand/firm (ethicality/SR, reputation, attachment), specific offering (competence, attachment, perceived value), industry (reputation, ethicality/SR, perceived quality), or technology (perceived value, reputation, perceived quality).

Strong effect of consumer trust on attitudinal and behavioral outcomes. On the surface, consumer trust is logically expected to lead to strong market performance. However, lack of systematic and generalizable evidence on the exact nature of benefits associated with consumer trust has led some experts to draw on anecdotal evidence and undermine the importance of fostering consumer trust (Marketing Week 2021). Our findings stand in contrast to such claims and highlight the strong effect of consumer trust on desirable outcomes. Not only does consumer trust result in enhanced attitudinal consequences of satisfaction, attitudinal loyalty, self-concept connection, evaluations, and engagement, it also boosts behavioral consequences like purchase intentions, behavioral loyalty, willingness to pay, and even market performance.

Consumer Trust in the Future

The increasing importance of the right antecedent levers. The cross-time findings, alongside recent industry reports regarding change in baseline trust yield interesting insights. While reports

by Edelman (2021), Gallup (2023), and Millward Brown (2018) suggest that baseline consumer trust has declined, our findings imply that all is not doom and gloom, and that managerial actions now have more power to move the needle and improve consumers' trust. In other words, although in general many consumers have lost trust in brands, brands can more easily make up for that loss in baseline trust by engaging in the right activities (conveying integrity via a reputation campaign or CSR, increasing the quality of their offerings).

The nuanced impact on downstream consequences over time. How has the importance of consumer trust in driving outcomes changed? Both researchers and practitioners would benefit greatly from insights regarding the future influence of consumer trust on different outcomes. To speak to the future role of trust, we conducted additional exploratory analyses on consequences of consumer trust by comparing meta-analytic coefficients in recent versus older studies. We likewise conjectured that the change in trends in older vs. more recent studies would be manifested in the future: the outcomes that trust more strongly affects in recent studies will be impacted by it strongly in the future as well. On the aggregate, we do not find significant evidence for change in the effectiveness of consumer trust in driving PAC and PBC. However, when looking at individual consequences, we find that in recent years, the effect of consumer trust on behavioral loyalty and market performance has strongly increased. Interestingly, and contrary to the claims made by some practitioners (e.g., Marketing Week 2021), trust has recently become (and will most likely continue to be) more important in driving consumer purchase decisions. Additionally, the effect of consumer trust in enhancing behavioral loyalty has also increased in recent years. We present the detailed results in WA H.

Implications and Future Research Agenda

Probing integrity further. The current manuscript opens avenues for further research. First, the impressively strong impact of reputation, ethicality, and SR on consumer trust speaks to the effectiveness of inherently moral precursors of generating trust and the importance of *doing the right thing*. These integrity antecedents emerged the strongest among a number of contenders. Thus, scholars are encouraged to pay increased attention to studying various nuances related to how and why reputational and moral considerations influence consumer trust as well as studying the apparent importance of establishing integrity over establishing reliability in the marketplace (which is particularly meaningful amid the growing proliferation of unsuccessful sociopolitical activism efforts, greenwashing, and CSI). Related to this, past research has shown that when it comes to choosing between service providers, consumers prioritize competent ones over moral ones (Kirmani et al. 2017). Our findings paint a different picture when it comes to consumer trust. Future research on tradeoffs between consumers' trust and choice across settings is needed.

Rethinking certain antecedents. Second, the relatively low average capacity of perceived risk and marketing investments to influence trust is interesting and rather surprising, implying that their effects on trust are likely to be weaker than previously thought. This former finding is different than Geyskens et al.'s (1998) finding regarding the importance of risk and uncertainty in driving trust in the B2B context. This might be because the individual consumer is less calculative than the organizational customer. In this connection, future research should investigate conditions under which risk and marketing investments hold the ground and serve as more effective drivers of the individual consumer's trust (e.g., types or magnitude of risk and marketing investments).

Digging deeper into the moderators. Further, the finding that different trust entities have differential effectiveness of their respective antecedents implies that there is likely no one-size-

fits-all approach to driving consumer trust. That is, depending on which target trust is directed at (brands/firms vs. specific offerings vs. industries vs. technologies), the impact of different antecedents varies quite dramatically. This is consistent with the idea of the increasingly nuanced marketplace wherein nowadays consumers have to put trust in both humans and machines, whereas humans were more of the focus in the past. Therefore, future researchers must carefully select a particular trust entity context of interest and avoid expecting uniform effects. Depending on the context, consumer trust scholars should be able to calibrate their expectations and shortlist a handful of manipulations holding the highest potential when it comes to predicting trust (e.g., manipulating competence to drive trust in crowdfunding requestors; Wang et al. 2021).

Interestingly, looking at temporal patterns and trajectories within our meta-analytic data for recent versus older years as well as attribute type differences spurs a number of research pathways. These trends naturally prompt the following questions: Why do we observe such increases and decreases, respectively? What are some of the factors driving this evolution over time and this IBTA effectiveness gap for experience attributes? Can scholars expect the same patterns moving forward? Future work is urged in this regard, and we explicitly call for research identifying certain conditions where trust is still highly impactful on consumer outcomes.

Consumer trust in a post-truth world. Importantly, one can argue that consumers are increasingly distrustful of media in general and of social media in particular, especially in the US with the prevalence of fake news and one's inability to distinguish truth from lies in these contexts. Is it likely that this distrust finds its way into a general distrust of products and brands? Has time come to determine more latent ways in which trust might affect consumers' decisions even when they do not explicitly state it as important? Relatedly, would the increasing levels of nationalism being observed across the globe lead to a distrust of foreign brands?

Calling for greater ecological validity. Lastly, a fairly strong trust-market performance link warrants elaboration. On the one hand, this effect is reassuring, as it implies that the positive substantial effects of trust are not limited to attitudes and behavioral intentions. On the other hand, only a handful of included studies (i.e., 28 effect sizes) focused on market performance. Against this background, more studies of ecologically valid downstream financial and market consequences are urgently needed going forward because of their 1) superior representation of the real-world marketplace, 2) current lower sample size, and 3) higher potential to arrive at realistic, non-inflated effect sizes.

Examining understudied constructs. To keep the scope of our work manageable, following other meta studies we focused on the most prevalent antecedents of our focal construct. However, many other antecedents of consumer trust have been discussed in past research. A few examples are propensity to trust (Yamagishi and Yamagishi 1994), warmth (Kirmani et al. 2017), familiarity (Garbarino and Johnson 1999). Future research could look through other theoretical lenses and meta-analyze another set of understudied antecedents not examined in our research.

Trust dimensionality. The dimensionality of trust warrants further investigation. Our review of past research indicates that trust is predominantly conceptualized as two-dimensional (65% of papers, WA I), aligning with our findings regarding the differential effects of IBTA vs RBTA. The most commonly studied dimensions are reliability and integrity, although other dimensions such as sympathy and familiarity are also mentioned in the literature, albeit rarely (WA I). While we adopted a two-dimensional conceptualization of trust, given the limited available data in prior papers, our empirical modeling treated trust as a unidimensional construct with two groups of antecedents inspired by the most commonly examined dimensions of trust. Future work could explore the relationships between antecedents and different dimensions of trust in greater detail.

REFERENCES

- Barry, Thomas E. and Daniel J. Howard (1990), "A Review and Critique of the Hierarchy of Effects in Advertising," *International Journal of Advertising*, 9 (2), 121–35.
- Bhargava, Vikram and Suneal Bedi (2022), "Brand as Promise," *Journal of Business Ethics*, 179 (3), 919-36.
- Bidmon, Sonja (2017), "How Does Attachment Style Influence the Brand attachment–brand trust and Brand Loyalty in Adolescents?" *International Journal of Advertising*, 36 (1), 164-89.
- Campbell, Margaret C. and Karen Page Winterich (2018), "Marketplace Morality Editorial," *Journal of Consumer Psychology*, 28 (2), 167–79.
- Chaudhuri, Arjun and Morris B. Holbrook (2001), "The Chain of Effects from Brand Trust and Brand Affect to Brand Performance," *Journal of Marketing*, 65 (2), 81–93.
- Crosby, Lawrence, Ken Evans, and Deborah Cowles (1990), "Relationship Quality in Services Selling: An Interpersonal Influence Perspective," *Journal of Marketing*, 54 (3), 68-81.
- Darke, Peter R. and Robin Ritchie (2007), "The Defensive Consumer: Advertising Deception, Defensive Processing, and Distrust," *Journal of Marketing Research*, 44 (1), 114–27.
- Delgado-Ballester, Elena and José Luis Munuera-Alemán (2001), "Brand Trust in the Context of Consumer Loyalty," *European Journal of Marketing*, 35 (11/12), 1238-58.
- De Wulf, Kristof, Gaby Odekerken-Schröder, and Dawn Iacobucci (2001), "Investments in Consumer Relationships: A Cross-country and Cross-industry Exploration," *Journal of Marketing*, 65 (4), 33-50.
- Diallo, Mbaye and Christine Lambey-Checchin (2017), "Consumers' Perceptions of Retail Business Ethics and Loyalty to the Retailer," *Journal of Business Ethics*, 141 (3), 435–49.
- Edelman (2021), "Trust Barometer," [edelman.com/2021-trust-barometer](https://www.edelman.com/2021-trust-barometer).

- Elliott, Richard and Natalia Yannopoulou (2007), "The Nature of Trust in Brands: A Psychosocial Model," *European Journal of Marketing*, 41 (9/10), 988–98.
- Engeler, Isabelle and Kate Barasz (2021), "From Mix-and-Match to Head-to-Toe: How Brand Combinations Affect Observer Trust," *Journal of Consumer Research*, 48 (4), 562–85.
- Fletcher, Garth, Jeffry Simpson, and Geoff Thomas (2000), "The Measurement of Perceived Relationship Quality Components," *Personality & Social Psychology Bulletin*, 26(3), 340-54.
- Gallup (2023), "Confidence in Institutions Dips," <https://tinyurl.com/5c3nrxbj>.
- Garbarino, Ellen and Mark S. Johnson (1999), "The Different Roles of Satisfaction, Trust, and Commitment in Customer Relationships," *Journal of Marketing*, 63 (2), 70-87.
- Geyskens, Inge, Jan-Benedict EM Steenkamp, and Nirmalya Kumar (1998), "Generalizations about Trust in Marketing Channel Relationships Using Meta-analysis," *International Journal of Research in Marketing*, 15 (3), 223–48.
- Grabner-Kraeuter, Sonja (2002), "The Role of Consumers' Trust in Online-shopping," *Journal of Business Ethics*, 39, 43-50.
- Grayson, Kent (2014), "Morality and the Marketplace," *Journal of Consumer Research*, 41 (2).
- Gremler, Dwayne D., Yves Van Vaerenbergh, Elisabeth C. Brüggen, and Kevin P. Gwinner (2020), "Understanding and Managing Customer Relational Benefits in Services: A Meta-analysis," *Journal of the Academy of Marketing Science*, 48 (3), 565–83.
- Hennig-Thurau, Thorsten, Markus F. Langer, and Ursula Hansen (2001), "Modeling and Managing Student Loyalty: An Approach Based on the Concept of Relationship Quality," *Journal of Service Research*, 3 (4), 331–44.
- Hunter, John E. and Frank L. Schmidt (1990), *Methods of Meta-Analysis: Correcting Error and Bias in Research Findings*. Newbury Park, CA: Sage Publications.

- Johnson, Devon and Kent Grayson (2005), “Cognitive and Affective Trust in Service Relationships,” *Journal of Business Research*, 58 (4), 500–07.
- Khamitov, Mansur, Xin Wang, and Matthew Thomson (2019), “How Well Do Consumer–Brand Relationships Drive Customer Brand Loyalty? Generalizations from a Meta-analysis of Brand Relationship Elasticities,” *Journal of Consumer Research*, 46 (3), 435–59.
- Kim, Yeolib and Robert A. Peterson (2017), “A Meta-analysis of Online Trust Relationships in E-commerce,” *Journal of Interactive Marketing*, 38, 44–54.
- Kirmani, Amna, Rebecca W. Hamilton, Debora V. Thompson, and Shannon Lantzy (2017), “Doing Well versus Doing Good: The Differential Effect of Underdog Positioning on Moral and Competent Service Providers,” *Journal of Marketing*, 81 (1), 103–17.
- Lipsey, Mark W. and David B. Wilson (2001), *Practical Meta-analysis*. London: Sage.
- Marketing Week (2021), “Trust in Brands Is Illusory,” <https://tinyurl.com/3ztmkv48>.
- McKnight, D., Vivek Choudhury, and Charles Kacmar (2002), “Developing and Validating Trust Measures for E-commerce,” *Information Systems Research*, 13 (3), 334-59.
- Millward Brown (2018), “BrandZ Top 100 Most Valuable Global Brands,” New York: Kantar.
- Palmatier, Robert W., Rajiv Dant, Dhruv Grewal, and Kenneth R. Evans (2006), “Factors Influencing the Effectiveness of Relationship Marketing: A Meta-Analysis,” *Journal of Marketing*, 70 (4), 136–53.
- Pan, Lee-Yun and Jyh-Shen Chiou (2011), “How Much Can You Trust Online Information? Cues for Perceived Trustworthiness of Consumer-generated Online Information,” *Journal of Interactive Marketing*, 25 (2), 67-74.
- Pappas, Nikolaos (2016), “Marketing Strategies, Perceived Risks, and Consumer Trust in Online Buying Behaviour,” *Journal of Retailing and Consumer Services*, 29, 92-103.

- Philipp-Muller, Aviva, Jacob D. Teeny, and Richard E. Petty (2022), "Do Consumers Care about Morality? A Review and Framework for Understanding Morality's Marketplace Influence," *Consumer Psychology Review*, 5 (1), 107-24.
- Rajavi, Koushyar, Tarun Kushwaha, and Jan-Benedict EM Steenkamp (2019), "In Brands We Trust? A Multicategory, Multicountry Investigation of Sensitivity of Consumers' Trust in Brands to Marketing-mix Activities," *Journal of Consumer Research*, 46 (4), 651–70.
- Raudenbush, Stephen W. and Anthony S. Bryk (2001), *Hierarchical Linear Models: Applications and Data Analysis Methods*. Thousand Oaks, CA: Sage Publications.
- Rifkin, Laura, Canan Corus, and Colleen Kirk (2022), "The Reputation Economy: A Tale as Old as Time or a New Paradigm?" In *Sage Handbook of Social Media Marketing*, 437-55.
- Sirdeshmukh, Deepak, Jagdip Singh, and Barry Sabol (2002), "Consumer Trust, Value, and Loyalty in Relational Exchanges," *Journal of Marketing*, 66 (1), 15–37.
- Sung, Yongjun and Jooyoung Kim (2010), "Effects of Brand Personality on Brand Trust and Brand Affect," *Psychology and Marketing*, 27 (7), 639–61.
- Wang, Xin, Shijie Lu, Xi Li, Mansur Khamitov, and Neil Bendle (2021), "Audio Mining: The Role of Vocal Tone in Persuasion," *Journal of Consumer Research*, 48 (2), 189-211.
- Weingarten, Evan and Joseph Goodman (2021), "Re-examining the Experiential Advantage in Consumption: A Meta-analysis and Review," *Journal of Consumer Research*, 47 (6), 855-77.
- Wu, Yanyan, and Hongqing Huang (2023), "Influence of Perceived Value on Consumers' Continuous Purchase Intention in Live-Streaming E-Commerce-Mediated by Consumer Trust," *Sustainability*, 15 (5), 4432.
- Yamagishi, Toshio, and Midori Yamagishi (1994), "Trust and Commitment in the United States and Japan," *Motivation and Emotion*, 18 (2), 129-66.