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Intellectual Structure and Emancipation of Word of Mouth Research: A Bibliometric Analysis of a Multidisciplinary Research Field

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Title: Intellectual structure and emancipation of word of mouth research: A bibliometric analysis of a multidisciplinary research field

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Abstract

Word of mouth (WOM) information have become an integral part of consumer decision-making and have revitalized investigations of a social phenomenon to serve marketing objectives. This study addresses the fast-growing yet diverse WOM literature with its heterogeneous background. An objectified and methodologically enriched analysis is carried out to synthesize the literature and realign the richness of online WOM publications with their intellectual foundations. Drawing on meaningful publications, the present analysis systematically processes relevant knowledge to address statistically distinguishable research streams in the field of WOM, their coherence, as well as temporal developments. Results provide evidence of a shared core of WOM research as well as six (sub)streams of varying importance over time that describe two higher research orientations. Practical implications can be derived concerning most influential journals dedicated to specific research on WOM. By discussing the various findings, avenues for future research are revealed.

Keywords: Word of mouth, Consumer behavior, Bibliometrics, Co-citation analysis, Text mining

1. Introduction

In line with the close scientific attention word of mouth (WOM) is receiving as a dominant force that drives consumers' purchase intentions (e.g. Chen & Xie, 2008; Zhao & Xie, 2011; Kawakami et al., 2013), marketing managers acknowledge WOM as a key business priority (e.g. Packard & Berger, 2015). These informal communications between non-commercial consumers regarding brands, products, or services (Harrison-Walker, 2001, p. 63) were long understood as a subordinate post-purchase behavior in the shadow of customer satisfaction, re-buying intentions, or loyalty (e.g. Dick & Basu, 1994; Cronin, Brady, & Hult, 2000). WOM had revitalized as a focal research interest by the time consumers' non-purchase behaviors became increasingly traceable through the plethora of user-generated content on various online platforms: A new customer-centricity has emerged (Lemon & Verhoef, 2016), positioning WOM at the intersection of broader customer-to-customer interactions (Libai et al., 2010), other non-purchase behaviors such as customer engagement (Brodie & Hollebeek, 2011), and hot topics such as social media or viral marketing (e.g. Berger & Milkman, 2012). Since its new contributors (e.g. interactive marketers or big data analysts) have shifted the discourse to the online context, the question arises how this affects dominant research orientations on WOM and their helpfulness for marketers' interest in understanding and influencing WOM (Baker et al., 2016).

Stimulated by computer sciences and marketing journals' appreciation of large-scale econometric models (e.g. *Journal of Marketing Research*), scholars are increasingly exploiting the rich and promising online data to address marketing impacts of electronic WOM (eWOM) (e.g. Zhu & Zhang, 2010; Gopinath et al., 2014; Bapna & Umyarov, 2015). As a result, a remarkable multitude of meta-analysis is required to clarify the growing amount of conflicting empirical findings on eWOM effectiveness (e.g. Floyd et al., 2014; You et al., 2015; Babić Rosario et al., 2016).

Here, previous knowledge on customers' experiences as drivers of WOM is not being retrieved from service quality or satisfaction studies (e.g. Blodgett, Granbois, & Walters, 1993). Brown et al. (2005) have stressed the incomplete understanding of WOM's antecedents and Lovett, Peres, and Shachar (2013) have re-iterated their claim for more direct attention on the drivers of WOM when finding the streams of WOM, and brands as their antecedents, largely disconnected. Seeking to overcome this fragmentation, King, Racherla, and Bush (2014) provided a holistic synthesis of the existing literature, including the antecedents and consequences of WOM. However, the mere consideration of eWOM excludes the majority of all WOM that still occurs offline as well as its substantial theoretical foundations from which eWOM tends to depart (e.g. services marketing or commitment-trust theory). Although Berger's (2014) literature review on behavioral WOM drivers has incorporated both offline and online WOM, insights from service quality or satisfaction research have once more been omitted due to the publications' psychological scope.

Despite the richness of contributions to WOM as a hot topic, a systematic overview has yet to emerge that connects current primarily data-driven approaches with their broader consumer behavioral roots and thus integrates the perspectives of research on multiple antecedents and the diverse marketing capabilities of online WOM. In line with MSI's 2016 to 2018 research priorities, which call for "integrating behavioral theory and marketing frameworks into big data marketing" (Marketing Science Institute, 2016), this paper seeks to provide a domain-neutral synthesis of meaningful WOM research as a basis for realigning distinct perspectives on WOM. For this purpose, the present paper utilizes bibliometric data and provides a methodologically enriched yet compact overview of WOM research's intellectual structure and temporal evolution.

Bibliometric methods complement quantitative rigor in the landscape of subjective literature evaluations (Zupic & Čater, 2015). 1,351 publications on WOM and co-citation patterns among their 124 most-cited references are analyzed to connect the intellectual fundamentals of WOM

research with innovative perspectives of current research. This study applies a combination of multivariate co-citation analysis, network analysis, and text mining to address the following research objectives: Section 2.3.2 identifies and characterizes the primary pillars of WOM research (1). Section 2.3.3.1 reveals intellectual connections between meaningful pillars of WOM research to infer their exchange of ideas (2). Section 2.3.3.2 addresses the temporal prevalence of certain discourses over time (3). Section 2.4 portrays the most influential and active journals as carriers of specific WOM knowledge (4).

This systematic and domain-neutral approach helps to realign existing knowledge on offline and online WOM, theoretical-conceptual and data-driven approaches, and WOM-focused and wider-scoped research. The study reveals, structures, and interprets multiple perspectives that coexist in WOM research. Gaining an unbiased and holistic overview seems particularly important for the WOM field, since the rapid changes in marketing research have led to a sense that the previous methodology is less effective (Marketing Science Institute, 2016), and different perspectives on WOM tend to become disentangled from each other. As opposed to previous meta-analyses, each with its specific scope, this bibliometric study orchestrates extant literature on multiple levels and serves as hub to emphasize fruitful avenues for future endeavors in a realigned research field. Regardless of researchers' commitment to a certain research (sub)field, this study encourages the exchange of ideas to prevent silo mentalities.

2. Method and data

2.1 Principles of bibliometric analysis

Bibliometric methods provide the advantage to build on (shared) knowledge, as cited by researchers of multiple domains, and thereby neutrally reveal structural insights of a joint research

system. They can be applied to diverse research goals that range from evaluations of academic institutions (e.g. Carpenter, M. et al., 1988) over describing entire research fields (e.g. Leone et al., 2012) to identifying “invisible colleges” (e.g. Vogel, 2012) or distinct research streams (e.g. Kuntner & Teichert, 2016). Of the various forms of bibliometric analysis, co-citation analyses are the most used and validated bibliometric method (Zupic & Čater, 2015). This study utilizes co-citation counts to depict measures of similarity between authors, publications, or journals (McCain, 1990). The underlying assumption is that the more frequently two publications are cited together by other scholars, the higher the likelihood that the content is somehow related (Teichert, 2004). This might be the case in terms of related research objectives, methodological similarities, or shared theoretical foundations.

By aggregating and analyzing bibliometric data, insights on network structure or topical interests in different time spans can be put forward (Zupic & Čater, 2015). Here, statistical analyses of (co-)citation patterns serve as acceptable surrogates for influence and cohesion in a research system (e.g. Culnan, 1987). The process from author selection to the interpretation and validation of co-citation was inspired by a suggestion by McCain (1990), who experienced recent confirmation of the workflow scheme from Zupic and Čater (2015) to conduct science mapping via bibliometric methods. This research also followed Kuntner and Teichert’s (2016) innovative approach to substantiate the factor-analytical interpretation with text mining.

2.2 Research framework: Databases, analysis techniques, and outcomes

To reveal coherent structures in the broad field of WOM-related research, this study retrieved bibliographic data from the publication database *Web of Science* (Social Sciences Citation Index / SSCI). A three-step process of search term definition, article extraction, and data cleaning was used to retrieve the relevant body of literature on WOM. Appendix A presents search words and

data retrieval process. Since the temporal evolution of WOM research and its assumed discontinuities are of key interest to this study, the search included publications since its first mention of WOM until today. Thus, 1,351 articles constitute the final *sample of WOM publications*, reaching from 1957 until the point of data collection in May 2015.

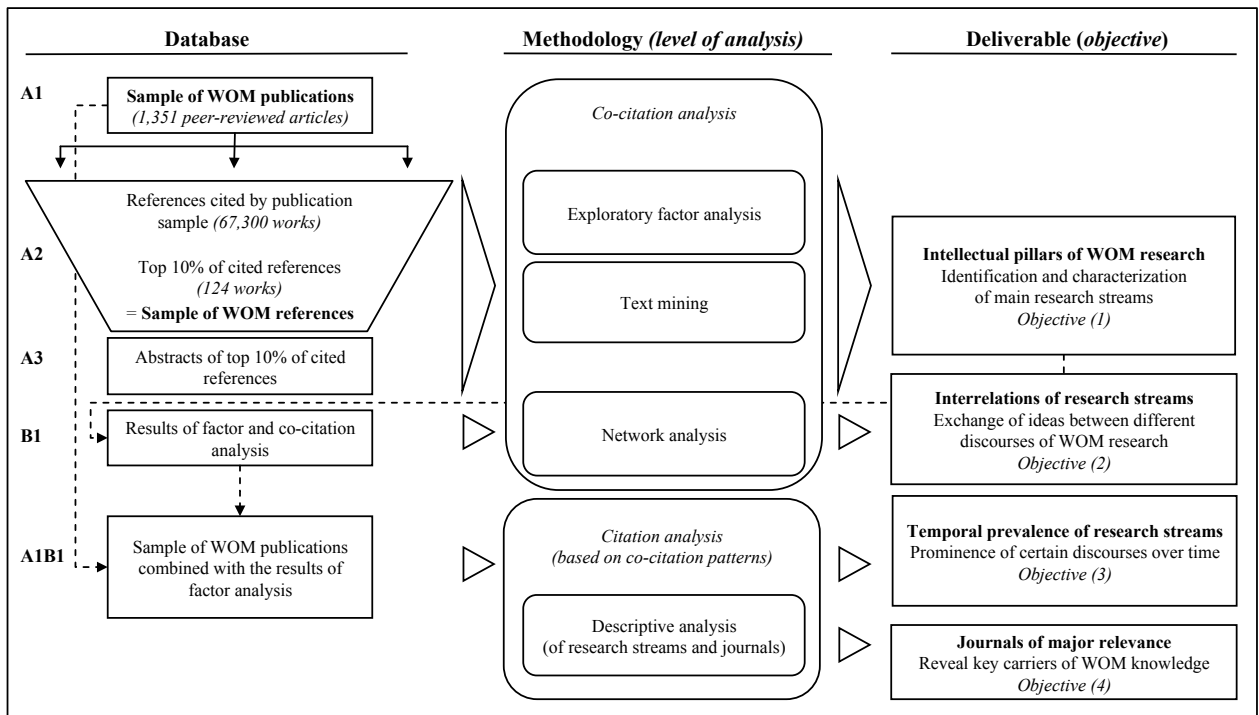
This study used a combination of quantitative bibliometric analysis techniques to reconcile extant literature on WOM. To reveal the intellectual foundations of the retrieved sample of WOM publications, in-depth analysis of co-citation data was carried out. Therefore, the study analyzed the cited references of each included WOM publication, referring to it as the *sample of WOM references*. Since 1,351 WOM publications accumulated 67,300 cited-references, this number was reduced to a manageable size of the most representative works. Bibliometric practice endorses an exclusive use of the most influential works that exceed an adequate minimum citation threshold to favor the identification of meaningful research streams (McCain, 1990). Zupic and Čater (2015) suggested to base the reduction towards a manageable size of representative articles on the individual sample characteristics. For the present dataset, the most-cited 124 references already account for 10% of the cumulated citations among all 67,300 references. This high concentration suggests a focus on these most relevant 124 publications, each receiving more than 30 citations by the retrieved sample of WOM publications. To put these numbers into perspective, other bibliometric studies have applied even more restrictive criteria and have reduced their databases to the top 1% (e.g. Small, 2006).

This study analyzed co-citation patterns from the 124 top-references of WOM research factor-analytically to identify most important intellectual pillars of the WOM domain. Text mining complemented the subjective interpretation of statistically evident research discourses in order to maintain the key advantage of bibliometric methods. For this purpose, this study used *Leximancer*, text mining software that extends simple keyword counting by the use of a machine-learning

technique to identify (key) concepts; it has been applied by scholars across disciplines in the social sciences (e.g. Hansson, Carey, & Kjartansson, 2010; Campbell et al., 2011; Wilden, Devinney, & Dowling, 2016).

In accordance with bibliometric practice (Zupic & Čater, 2015), this study applied network analysis to reveal co-citation-based linkages between publications, indicating the exchange of ideas between WOM research discourses. UCINET was used to display network structures, and network density substantiated the graphical interpretations of (missing) connections among publication groups. For analyzing the temporal evolution of research on WOM, this study combined the database of the WOM publication sample and the sample of WOM references. Figure 1 summarizes the research framework at hand by integrating underlying database, the applied methodology, and each stage's deliverables on a general level.

Figure 1: Bibliometric research framework



3. Results of co-citation analysis: Basic pillars of WOM research

To reveal the intellectual foundations of the 1,351 articles from the sample of WOM publications, the co-citation data from the top 10% of cited references were used. In a first step, it was analyzed if a core of most-cited references exists for the WOM research network that provides fundamental articles of universal relevance, as opposed to more specific (sub)disciplines. To detect whether such a subsample of strongly intertwined publications exists, co-citation patterns were compared for the 124 publications from the sample of references.

If a center-periphery structure exists in a network (see Brieger, 1976), the center (or *core*) will appear more dense and cohesive, while the *periphery* tends to be relatively strongly connected to the core, yet only loosely connected internally (see Mullins et al., 1977). Accordingly, a core of publications shows disproportionally high co-citations among each other as well as from the peripheral groups, while the research streams in the peripheral structure appear less cohesive than the core (Teichert, 2004). The lower section of Table 1 contrasts aggregated bibliometric measures of publications allocated to the center (core) of WOM research with more specialized (peripheral) discourses.

Table 1: Core and peripheral articles from the top 10% of WOM references

<i>Density scores</i>	<i>Core (N = 22)</i>	<i>Periphery (N = 102)</i>
<i>Core</i>	<i>20.01</i>	<i>6.54</i>
<i>Periphery</i>	<i>6.54</i>	<i>2.51</i>
Average sum of local citations SLC_{WOM} ¹	115.1	44.6
Average number of co-citations	1,087.7	397.3
Average year of publication (SD)	1991 (13.9)	1997 (9.8)

Note: SD = Standard deviation.

¹ Sum of local citation (SLC_{WOM}) reflects on a publication's importance due to the number of other works on WOM referring to a single publication in the retrieved sample of WOM publications. While the sum of global citations (based on the ISI Web of Knowledge count) would explain a study's general importance at a macro-level, the sum of local citation indicates a study's importance in WOM research (based on the 1,351 publications and their cited references).

Since the high mean of citations for core publications (115.1) appears to be negatively correlated with the average year of publication (1991), further evidence for a distinction between core and periphery of relevant WOM literature must be derived. However, high co-citations of 22 core publications with other works (1,087.7) indicate central knowledge of relevance for every study, independent of a specific (niche) research focus. Further, measures of social network analysis support such a distinction, as the *density scores* in Table 1 (*italics*) underline convincing differences within co-citation patterns. Since high network density implies more ties between actors of a (social) network (Biehl, Kim, & Wade, 2006), the very dense core of 22 key academic publications represents essential and indispensable cornerstones of WOM research, while low density among the remaining 102 publications indicates specialized WOM research streams. As the lower number of average co-citation (397.3) suggests, publications in the periphery are more loosely connected to certain publications and might thus be divided by means of factor analysis (*Section 2.3.2*).

3.1 Core of WOM research

Since each publication assigned to the core of WOM received between 64 and 203 citations from the sample of WOM publications (SLC_{WOM}), one can derive its significance to the development of the entire research system. Table 2 depicts core contributions to WOM research in chronological order and briefly summarizes the major research foci of these cornerstones of WOM research.

Table 2: Cornerstones of WOM over time

Major topic (decade)	Core publications	SLC WOM	Research focus
WOM as a social phenomenon of personal influence (1950s)	KATZ_E_1955_PERSONALINFLUENCE	93	Theoretical foundations and personal influence (opinion leadership)
WOM as an advertising tool (1960s)	DICHTER_E_1966_HARVARDBUSREV	93	Motives of recommendation senders, receivers, and the ways WOM may affect advertising
	ARNDT_J_1967_JMARKETINGRES	124	Influence of (un)favorable WOM on purchase probability in new product diffusion
	FORNELL_C_1981_JMARKETINGRES	189	Methodological foundation (structural equation modeling)
	RICHINS_ML_1983_JMARKETING	124	Customer responses to dissatisfaction
Antecedents and contingency aspects of WOM transmission (1980s)	BROWN_JJ_1987_JCONSUMRES	145	Network analysis of social ties from a relational perspective
	FEICK_LF_1987_JMARKETING	64	Introduction of market maven (providing general shopping and marketplace information)
	WESTBROOK_RA_1987_JMARKETINGRES	92	Product-based and consumption-based antecedents of WOM
	ANDERSON_JC_1988_PSYCHOLBULL	112	Methodological foundation (structural equation modeling)
	HERR_PM_1991_JCONSUMRES	151	Persuasive impacts of WOM on receivers' product evaluations
	BONE_PF_1995_JBUSRES	79	Influences of WOM on consumer judgments
Dyadic perspectives on WOM (1990s)	ZEITHAML_VA_1996_JMARKETING	118	WOM as consequence of service quality
	ANDERSON_EW_1998_JSERVRES	123	Relationship between satisfaction and WOM transmission
	SUNDARAM_DS_1998_ADVCONSUMRES	69	Consumption experiences and motives underlying WOM in personal communications
Differentiation of insights on WOM (early 2000s)	VOYER_PA_2000_JSERVRES	69	(Inter)personal contingency factors (e.g. tie strength) regarding WOM's influences on receivers
	BICKART_B_2001_JINTERACTMARK	77	Influence of owned vs. earned sources of consumer information
	HARRISON-WALKER_LJ_2001_JSERVRES	71	Measuring multiple dimensions of WOM
	DELLAROCAS_C_2003_MANAGESCI	92	Understanding new data possibilities of online WOM
Motives and impacts of eWOM (later 2000s)	GODES_D_2004_MARKETSCI	151	Online conversations as cost-effective way to measure multiple aspects of WOM
	HENNIG-THURAU_T_2004_JINTERACTMARK	169	Classification of senders' motives for engaging in online WOM
	CHEVALIER_JA_2006_JMARKETINGRES	203	Effects of consumer reviews on relative sales
	LIU_Y_2006_JMARKETING	124	Financial impacts of WOM in different stages

This analysis of research perspectives of key publications in WOM research reveals valuable insights into the temporal evolution of a multidisciplinary research field. After early theoretical foundation of WOM as a social phenomenon of personal influence by sociologists and communication scientists in the 1950s, the emphasis shifted to WOM as source of advertising and transferred into the new product diffusion context in the 1960s. The 1980s provided broader research into antecedents and contingency aspects of WOM recommendation and complaining behaviors, before specific investigations into both sender and receiver perspectives emerged in the 1990s. While the differentiated research endeavors from the early 2000s constitute the transition from mostly service-focused research towards the digital stage, the later 2000s constitute a new era that particularly addresses the arising potentials of online WOM.

Although one would expect older works to be cited more often in absolute measures, Godes and Mayzlin (2004), Hennig-Thurau et al. (2004), and Chevalier and Mayzlin (2006) are the three most cited publications in WOM research. This indicates a structural shift in WOM research and its proliferating importance in marketing research. Taken together, core publications on WOM reflect both the intellectual heritage and cornerstones of meaningful contemporary research tendencies.

3.2 Distinct WOM research streams

While the core of WOM research serves as a fundamental for a majority of publications on WOM, the following sections will describe a more differentiated picture of distinct intellectual pillars of WOM research. According to specific goals, divergent theoretical foundations, or applied methods, these single research streams serve as a more specific groundwork for marketing scholars.

After ensuring method applicability and data appropriateness, an iterative, factor-analytical consolidation process was carried out in order to identify statistically meaningful factors that represent specific WOM research streams.² The allocation of publications to a research stream was based on factor loadings larger than 0.5 towards a specific discourse, in the absence of cross-loadings higher than 0.5.³ Table 3 highlights the derived research streams (factors), their prominence (variance explained by each factor), the most representative works (highest factor loading), and the most influential publications (highest factor scores).

² Method applicability was ensured by statistical tests as a significant Bartlett test of sphericity (chi-square = 10,354.25; $p < 0.001$). The appropriateness of the data for carrying out a principal component analysis was confirmed by a value of 0.69 for the Kaiser-Meyer-Olkin (KMO) measure. 13 publications were excluded owing to communalities less than 0.5.

³ In case of slight violations of one requirement, a subjective interpretation was carried out based on title, abstract, keywords, and full text, in order to evaluate the content-related fit of the suggested factor allocation. As a result, the work of Granovetter (1973) (*the strength of weak ties*) was allocated to the discourse of interpersonal influence owing to its excellent content-related fit, even though the factor loading was only 0.49.

Table 3: The top ten most influential publications per research stream

<i>1: Effects of eWOM (22 publications)</i>			<i>2: Service failure and complaints (16 publications)</i>			<i>3: Customer-brand relations (19 publications)</i>		
Variance explained by factor: 18.3%			Variance explained by factor: 14.3%			Variance explained by factor: 13.5%		
Publication	FS	FL	Publication	FS	FL	Publication	FS	FL
DELLAROCAS_C_2007_JINTERACTMARK	3.16	0.81	SMITH_AK_1999_JMARKETINGRES	4.75	0.82	MORGAN_RM_1994_JMARKETING	4.15	0.72
CLEMONS_EK_2006_JMANAGEINFORMSYST	2.61	0.83	BITNER_MJ_1990A_JMARKETING	3.54	0.81	BAGOZZI_RP_1988_JACADMARKETSCI	3.83	0.79
DUAN_W_2008_DECISUPPORTSYST	2.56	0.83	TAX_SS_1998_JMARKETING	3.01	0.86	GARBARINO_E_1999_JMARKETING	2.49	0.78
DUAN_W_2008_JRETAILING	2.42	0.83	BLODGETT_JG_1997_JRETAILING	2.43	0.87	BROWN_TJ_2005_JACADMARKETSCI	2.37	0.73
ZHU_F_2010_JMARKETING	2.41	0.87	KEAVENEY_SM_1995_JMARKETING	2.32	0.83	DICK_AS_1994_JACADMARKETSCI	2.15	0.81
PARK_DH_2007_INTJELECTRONCOMM	2.27	0.83	BLODGETT_JG_1993_JRETAILING	1.94	0.90	PODSAKOFF_PM_2003_JAPPLPSYCHOL	1.94	0.71
FORMAN_C_2008_INFORMSYSTRES	2.19	0.82	OLIVER_RL_1997_SATISFACTIONBEHAVP	1.78	0.55	REICHHELD_FF_2003_HARVARDBUSREV	1.89	0.74
SENECAL_S_2004_JRETAILING	2.10	0.83	FOLKES_VS_1984_JCONSUMRES	1.73	0.87	VERHOEF_PC_2002_JACADMARKETSCI	1.62	0.84
SEN_S_2007_JINTERACTMARK	1.86	0.82	MAXHAM_JG_2001_JBUSRES	1.49	0.87	BARON_RM_1986_JPERSSOCPSYCHOL	1.56	0.56
HENNIG-THURAU_T_2003_INTJELECTRONCOMM	1.55	0.67	BITNER_MJ_1990B_JMARKETING	1.48	0.71	OLIVER_RL_1999_JMARKETING	1.55	0.75
<i>4: Perceived quality and satisfaction (11 publications)</i>			<i>5: WOM referral management (9 publications)</i>			<i>6: Interpersonal influence (10 publications)</i>		
Variance explained by factor: 11.5%			Variance explained by factor: 7.9%			Variance explained by factor: 7.1%		
Publication	FS	FL	Publication	FS	FL	Publication	FS	FL
PARASURAMAN_A_1988_JRETAILING	4.19	0.78	GODES_D_2009_MARKETSCI	4.22	0.78	MURRAY_KB_1991_JMARKETING	3.06	0.69
ZEITHAML_VA_1988_JMARKETING	3.06	0.84	TRUSOV_M_2009_JMARKETING	3.48	0.57	GILLY_MC_1998_JACADMARKETSCI	2.42	0.80
CRONIN_JJ_1992_JMARKETING	2.76	0.85	RYU_G_2007_JMARKETING	2.59	0.73	MANGOLD_WG_1999_JSERVMARK	2.09	0.58
OLIVER_RL_1980_JMARKETINGRES	2.74	0.61	BIYALOGORSKY_E_2001_MARKETSCI	2.38	0.77	GRANOVETTER_MS_1973_AMJSOCIOL	1.96	0.49
PARASURAMAN_A_1985_JMARKETING	2.22	0.79	GODES_D_2005_MARKETLETT	2.03	0.76	BUTTLE_FA_1998_JSTRATEGICMARKETIN	1.85	0.73
ANDERSON_EW_1993_MARKETSCI	2.08	0.80	VAN_DEN_BULTE_C_2001_AMJSOCIOL	1.97	0.73	ROGERS_EM_1995_DIFFUSIONINNOVATION	1.72	0.61
CRONIN_JJ_2000_JRETAILING	1.70	0.76	WATTS_DJ_2007_JCONSUMRES	1.39	0.76	RICHINS_ML_1988_ADVCONSUMRES	1.58	0.72
BOULDING_W_1993_JMARKETINGRES	1.68	0.85	VILLANUEVA_J_2008_JMARKETINGRES	1.27	0.77	PHELPS_JE_2004_JADVERTISINGRES	1.48	0.63
ANDERSON_EW_1994_JMARKETING	1.63	0.82	GOLDENBERG_J_2001_MARKETLETT	0.86	0.59	FRENZEN_JK_1993_JCONSUMRES	1.01	0.52
OLIVER_RL_1993_JCONSUMRES	1.27	0.71	<i>(only nine publications allocated to this factor)</i>			ENGEL_JF_1969_JMARKETING	0.99	0.67

Note: FS = Factor score, FL = Factor loading. For better graphical representation, only first authors of a publication are listed.

The extraction of six distinct factors presents a plausible solution, from both statistical and content-related reflections. Of the overall variance, 72.6% is explained by six factors, indicating a reasonable illustration of the key pillars of WOM research (without diluting the picture by incorporating less representative research discourses). Since the explained variance reveals the importance of a particular stream as a conceptual foundation of a scientific research field (Nerur, Rasheed, & Natarajan, 2008), the WOM discourses in Table 3 are sorted by their relevance as intellectual foundations of the WOM research domain. While high factor loadings (FL) indicate a good fit with a specific WOM research stream, works with lower representativeness for a specific discourse tend to address multiple research fields (Nerur et al., 2008). Publications with high factor scores (FS) can be interpreted as strong influencers that significantly shape a discourse's orientation (Teichert & Shehu, 2010). Accordingly, publications that exert such strong influence without being highly representative may serve as fundamental research work for a broader audience.

To align the specific research perspectives and objectify the interpretation of the derived research streams, this study used text mining methods. The abstracts of each core publication were screened, for revealing relevant lexical terms (concepts) that foster a first holistic understanding of the fundamental agenda of WOM research. *Leximancer* analyzed the complete abstracts of each publication allocated to a research stream and built concepts of dominant words and meanings. Since the software extends simple keyword counts and uses a machine learning technique to identify (key) concepts, Smith and Humphreys (2006) validated the *Leximancer*'s output (e.g. by evaluating face validity of underlying algorithms).⁴ Appendix B displays the top five concepts as well as their relative occurrence in each discourse.

⁴ Manual adjustments were made in advance of usage to ensure an appropriate identification of meaningful concepts: In a first step, generic terms (e.g. "important," "based," "related") and typical research formulations (e.g. "article,"

3.2.1 *Description of distinct research streams*

The results of factor analysis and text mining will now be combined to characterize each research stream's key orientation, providing more fine-grained descriptions and interpretations of the derived discourses. Also, illustrations of both influential and representative research contributions are highlighted for each stream to illustrate research orientations.

The first derived research stream addresses the *effects of eWOM*. Rather than a specific and coherent theoretical framework, the highly promising data sources of user-generated online content bonds this relatively young WOM research stream (average year of publication: 2005). Concepts like “online”, “product”, or “reviews” constitute by far the most occurring concepts in the most prominent WOM discourse (18.3% of variance explained). Using large datasets of consumers' online conversations, this stream evaluates the “effects” of online WOM as a source of “information” for other decision-makers and their economic impact. This product-related communication type became increasingly traceable when customers started to shift their conversations to the – transparent – online channel, which allows for numerical or text-based investigations via innovative methods. Among the complex econometric models that investigate eWOM and its behavioral or economic impact, Zhu and Zhang (2010) appear as a key publication, representing (FL = 0.87) and shaping (FS = 2.4) this research stream's intellectual orientation. In accordance with this, the most influential works in this stream investigated the value of eWOM in different settings: Clemons, Gao, and Hitt (2006) (FS = 2.61) found ratings variance and review strength to predict new product growth in the craft beer industry, while Dellarocas, Zhang, and Awad (2007) (FS = 3.16; FL = 0.81) positioned online product reviews as sales forecasts for motion pictures.

“authors,” “model,” “research,” “study”) were excluded. Then, synonyms were merged (e.g. “WOM” and “word of mouth” or “consumers” and “customers”) and word stemming was applied (e.g. “information,” “informative,” “informed”).

Publications of this established research stream on *service failure and complaints* provide in-depth investigations of the antecedents of – mostly unfavorable – post consumption behaviors for service encounters (average year of publication: 1994). The relatively high occurrence of “service”, “satisfaction”, “failure”, “recovery”, and “complaining” underpins this interpretation. Most influential works diagnosed favorable and unfavorable service encounters (Bitner, Booms, & Tetreault, 1990) (FS = 3.54), involving failure and recovery attempts (Smith, Bolton, & Wagner, 1999) (FS = 4.75), but did not mention the term WOM throughout the text. On the other hand, works of high representativeness (FL = 0.87) positioned positive WOM intentions as one reaction to service recovery, among others (Maxham, 2001), or investigated complainants’ re-patronage intentions (Blodgett et al., 1997). With its strong theoretical embeddedness (e.g. equity theory, attribution theory, or literature on service quality and satisfaction), this discourse provides a substantiated understanding of primarily service-related antecedents of post-purchase behaviors. Mostly based on the critical incident technique (CIT), WOM is experimentally investigated as an additional dependent variable among others. However, by explaining 14.3% of the total variance, the relevance of this discourse as a foundation for WOM research is confirmed.

The third research stream (average year of publication: 1998) addresses *customer-brand relations* as antecedents of post-purchase behaviors (e.g. WOM). Concepts such as “satisfaction”, “loyalty”, “relationship”, “commitment”, and “trust” suggest primarily behavioral research on relationship marketing and its behavioral outcomes. In this respect, the perspective towards WOM has been more or less explicit. As the most influential publication (FS = 4.15), Morgan and Hunt (1994) proposed a theory of relationship commitment and trust. This stream’s most representative publication (FL = 0.84) confirms multiple effects of relational constructs on customer referrals (Verhoef et al., 2002). Besides such contributions to relationship marketing theory, this stream is further characterized by works with a purely methodological on cause-effect

modeling: Bagozzi and Yi (1988) strongly influence this stream by positioning structural equation models (SEM) as an effective way to reveal causal relationships between behavioral antecedents and consequences (FS = 3.83). The highly representative conceptual work of Dick and Basu (1994) suggested integrating WOM as a further dependent variable in future SEMs (FL = 0.81). Corresponding to this claim, Brown et al. (2005) shaped this stream by positioning WOM intentions and behaviors as central dependent variables in their SEMs (FS = 2.37).

The fourth research stream describes another established research field (average year of publication: 1990). Publications in this discourse broadly constitute research on *perceived quality and satisfaction* and address WOM only parenthetically. Text mining suggests high relevance of the concepts “quality”, “satisfaction”, “service”, or “disconfirmation”. In accordance with these concepts, this discourse provides conceptual models, measures, and applications for the development of services marketing theory and the satisfaction literature: Oliver (1980) studied customer satisfaction as a function of expectation and expectancy disconfirmation (FS = 2.74). As the strongest influencers in this discourse (FS = 4.19), Parasuraman, Zeithaml, and Berry (1988) developed a multiple-item scale to measure customer perceptions of service quality (SERVQUAL). With his investigations on consumers’ perceptions on price, quality, and value, Zeithaml (1988) exerts both high influence on this research stream (FS = 3.06) and a high correlation-based fit with this stream (FL = 0.84). Regarding the consequences of (service) quality perceptions and satisfaction, economic returns (e.g. Anderson & Sullivan, 1993) or loyalty and WOM (e.g. Boulding et al., 1993; Cronin et al., 2000) have been conceptualized. Despite its wider consumer-behavioral scope on consumers’ experiences, this discourse provides valuable measures and theoretical frameworks to grasp the underlying principles of customers’ post-consumption behaviors.

The next identified research stream contains relatively young articles that address firms’ exploitation of social interactions in terms of *WOM referral management* (average year of pub-

lication: 2006). Concepts such as “referral”, “rewards”, “effects”, “WOM”, or “marketing” undermine the intended utilization of WOM as a means of marketing-communication. Most influential in this stream of research are Godes and Mayzlin (2009) (FS = 4.22) and Trusov, Bucklin, and Pauwels (2009) (FS = 3.48). While Godes and Mayzlin (2009) investigated effective agents (opinion leaders) for driving sales through WOM, Trusov, Bucklin, and Pauwels (2009) calculated the monetary value of a WOM referral in comparison to traditional marketing actions for the short and the long run. Besides the advanced empirical models on the optimization and evaluation of referral reward programs’ effectiveness (e.g. Biyalogorsky, Gerstner, & Libai, 2001; Ryu & Feick, 2007), conceptual works such as that of Watts and Dodds (2007) connect this stream to theory of public opinion formation and social contagion (e.g. Katz & Lazarsfeld, 1955).

The last research stream emphasizes a dyadic perspective towards WOM in terms of processes of *interpersonal influence*. Concepts of major relevance are “WOM”, “theory”, “interpersonal”, “information”, and “service”. This discourse investigates motives and effects involved in information transmissions between message senders and receivers: As the strongest influencer (FS = 3.06), Murray (1991) studied consumer information acquisition behavior from the perspective of WOM receivers as decision-makers, while Gilly et al. (1998) found both source (sender) and seeker (receiver) characteristics to be key determinants of interpersonal influence. Accordingly, the authors exert a strong influence on this discourse (FS = 2.42) and have the highest correlation-based fit with the research stream (FL = 0.8). A prominent work that helps one to understand the strong theoretical contributions of this discourse is that of Rogers (1995) (FS = 1.72), who developed a theoretical framework and presented innovation diffusion as a social process in which information exchange occurs through a convergence process involving interpersonal networks. Granovetter (1973) extended sociological (network) theory to explore the impacts of dyadic tie strength on the diffusion of influence and information (FS = 1.96). The relatively low

average year of publication for this discourse (1990) can be further explained by Engel, Kegerreis, and Blackwell (1969, p. 15), who found that “the innovator or first user of a new product or service can be a valuable asset to a firm.”

3.2.2 Comparing meaningful perspectives on WOM

This section condenses the previous introductions to each discourse and contrasts their heterogeneous research orientations as overview for current and future marketing scholars. At first, each discourse’s emphasis on specific aspects of a broad research phenomenon confirms the multidisciplinary origins of WOM knowledge. Table 4 summarizes each stream’s characteristics and clarifies their perspectives towards WOM. Further, dominant theoretical foundations, typical methodology or data, and suggested readings are provided.

Table 4: Synopsis of WOM-related research discourses

Discourse	Ø Year of pub. (SD)	Key concepts (text mining)	Primary research focus (<i>perspective on WOM</i>)	Dominant theoretical foundation	Typical methodology/data	Important readings (1) Top representative (FL _{MAX}) (2) Top influencer (FS _{MAX})
1: Effects of eWOM	2005 (8.2)	Product, online, reviews, effect, information	Contingency aspects as well as the behavioral and economic impacts of eWOM using data from online conversations such as online product reviews (<i>WOM as focal construct</i>)	No coherent theoretical orientation – primarily references to theories on information processing (e.g. economics of information, information sources theory), or attribution theory	Complex econometric models based on large datasets of consumers' online WOM utterances in various product categories	(1) CHATTERJEE_P_2001_ADVCONSUMRES (2) DELLAROCAS_C_2007_JINTERACTMARK
2: Service failure and complaints	1994 (5.5)	Service, satisfaction, failure, recovery, complaining	Evaluations and behavioral reactions to unfavorable consumer experiences (mostly service encounters) (<i>WOM as one reaction to failure</i>)	Multiple theoretical foundations, most importantly: equity theory (esp. perceptions of justice and fairness), attribution theory, or literature on service quality and satisfaction	Critical incident technique (CIT) and experimental research based on fictive consumer incidents (e.g. role-playing); analysis of variance (e.g. (M)ANOVA)	(1) BLODGETT_JG_1993_JRETAILING (2) SMITH_AK_1999_JMARKETINGRES
3: Customer-brand relations	1998 (9)	Satisfaction, loyalty, relationship, commitment, trust	Relationship marketing and cause-effect models: customer-brand relations as antecedents of post-purchase behaviors (<i>WOM as subordinate construct</i>)	Theory development for relationship marketing (e.g. commitment-trust theory, customer loyalty, or brand relationship theory), references to the literature on perceived quality and satisfaction	Predominant role of SEMs (including exclusively methodological contributions on cause-effect modeling)	(1) VERHOEF_PC_2002_JACADMARKETSCI (2) MORGAN_RM_1994_JMARKETING
4: Perceived quality and satisfaction	1990 (5.3)	Quality, satisfaction, service, disconfirmation, intentions	Theory development, testing, and refinement on perceived quality (mostly service quality) and customer satisfaction with their antecedents and consequences (<i>WOM scarcely mentioned</i>)	Foundations and measurement models for service marketing theory (e.g. SERVQUAL or SERVPERF) and the satisfaction literature (e.g. expectancy (dis)confirmation)	Explorative research (in-depth interviews, focus groups, or means-end analysis); different methods for empirical tests of conceptual or measurement models (e.g. CFA or SEM)	(1) BOULDING_W_1993_JMARKETINGRES (2) PARASURAMAN_A_1988_JRETAILING
5: WOM referral management	2006 (3.5)	Referrals, rewards, effects, marketing, WOM	Firms' management of WOM referral as a means of marketing and its impact compared to traditional advertising (<i>WOM as focal construct</i>)	References to the flow of information (e.g. public opinion formation and social contagion, social exchange theory, tie strength), and opinion leadership	Conceptual works and quantitative (mostly econometric) analyses such as vector autoregression (VAR); heterogeneous data sources	(1) GODES_D_2009_MARKETSCI (2) GODES_D_2009_MARKETSCI
6: Interpersonal influence	1990 (11.4)	WOM, theory, information, interpersonal, service	WOM as a dyadic information exchange between message senders and receivers; especially in the context of social networks or new product diffusion (<i>WOM as focal construct</i>)	Theoretical contributions to the flow of (WOM) information (e.g. tie strength, social exchange theory, and diffusion theory); references to opinion leadership, moral hazards, or homophily	Conceptual and empirical work on goods and services, mostly quantitative experimental research (e.g. using information display boards or network analysis)	(1) GILLY_MC_1998_JACADMARKETSCI (2) MURRAY_KB_1991_JMARKETING

Comparisons of primary research foci among the six discourses reveal two dominant perspectives towards WOM: While research on the effects of eWOM, WOM referral management, and interpersonal influence position WOM as a focal construct, the remaining discourses focus on consumer behavioral antecedents, mostly conceptualizing WOM as one subordinate dependent variable among others. To grasp these differences, a closer look at the theoretical and methodological characteristics will be provided.

Although the *second*, *third*, and *fourth discourse* focus on the antecedents of different consumers' post-consumption behaviors and address WOM mostly parenthetically, these streams provide valuable intellectual foundations for current WOM scholars: Primarily based on explorative research methods such as focus groups or means-end analyses, the *fourth discourse* contributes to marketing theory and laid foundations for scholars addressing WOM antecedents by providing conceptual and measurement models on perceived (service) quality and satisfaction (e.g. Oliver, 1980; Parasuraman, Zeithaml, & Berry, 1985; Boulding et al., 1993). The *second discourse* aligns their measures and concepts with a broad range of theoretical frameworks for analyzing customers' reactions to service failures based on critical consumer incidents (e.g. prospect theory, mental accounting, or attribution theory). The most frequently applied and most comprehensive framework is equity theory (Adams, 1965) and corresponding consumer perceptions of fairness and justice (e.g. Blodgett et al., 1993; Blodgett et al., 1997; Maxham, 2001). References are also made to commitment-trust theory (e.g. Tax, Brown, & Chandrashekar, 1998; Smith et al., 1999), which was promoted by the *third discourse* to develop the theoretical basis for relationship marketing (Morgan & Hunt, 1994). The *third discourse* again applies concepts and measures from the discourse on perceived quality and satisfaction as a starting point for developing relationship marketing theory (see brand relationship theory) (Fournier, 1998) or for

cause-effect models (especially SEMs) on customer-brand relations as antecedents of WOM (e.g. Verhoef et al., 2002; Brown et al., 2005).

Among the discourses that conceptualize WOM as a focal construct, the *sixth discourse* is found to be a strong provider of theoretical knowledge. Conceptual and (mostly experimental) quantitative research on interpersonal influences have contributed to social exchange theory and tie strength's roles for diffusion of information among senders and receivers (e.g. Granovetter, 1973; Frenzen & Nakamoto, 1993). By transferring social influences to the new product context, this discourse also provides theory development for innovation diffusion (Engel et al., 1969; Rogers, 1995). Research that seeks to boost WOM use as a means of marketing-communication (*fifth discourse*) refers to the abovementioned theories on the flow of information (especially social exchanges and tie strength): A theoretically substantiated understanding of customers' decisions to transmit or withhold WOM generates valuable insights for active WOM referral management. Studies that address online WOM's behavioral or economic impacts and contingency aspects (*first discourse*) are mostly built on theories of information processing such as economics of information (Nelson, 1970; Nelson, 1974), information sources theory (Chaiken, 1980) (1980), or signaling processes under conditions of imperfect information (Caminal & Vives, 1996). In contrast to the mostly explorative and experimental research on perceived quality and satisfaction, which relies on offline data in the service context, this discourse uses large amounts of quantitative online data from diverse product or service categories to stress the behavioral and economic significance of eWOM (e.g. Zhu & Zhang, 2010).

Comparing the discourses' similarities and differences allows one to draw first inferences on the exchange of methodological or theoretical knowledge for research into WOM. It appears as if two higher-order orientations exist that are characterized by a similar perspective towards WOM and are built on related concepts, theories, or measures.

3.3 The interplays of WOM research streams: Knowledge diffusion between discourses and temporal prevalence

This section integrates the previously described heterogeneous WOM research streams as intellectual pillars of a comprehensive research system. Discourses' different research approaches and objectives provide helpful guidance to identify and face white spots in the comprehensive research landscape that can be addressed by extending theoretical or methodological bases of single discourses with established knowledge from other discourses. Since new knowledge is often generated at the intersection of multiple research discourses, the following section addresses both the intellectual connections between distinct WOM research streams and the temporal prevalence of certain streams as a starting point to anticipate future trends in WOM research.

3.3.1 Orchestration of research streams and cohesion

Knowing about distinct WOM research discourses and their key characteristics, this section will now reveal the orchestration of previously described streams as a composite research system. The graphic presentation of the results from network analysis facilitates understanding of the interactions of each discourse as “hidden structure” of a joint research system: *Who are closely positioned “companions”?* *Which publications build bridges?* *Which distant positions verify different perspectives towards WOM?* After removing the core of comparably co-cited WOM publications (Section 2.3.1), the distinct streams of WOM research – with its more or less similar perspectives on WOM – are visualized in Figure 2.

The structural layout of publications is based on the spring-embedding algorithm of UCINET (Borgatti, Everett, & Freeman, 2002). Sharing features with multidimensional scaling procedures (MDS), the algorithm iteratively organizes publications according to their pairwise geodesic distances so that similar publications are positioned relatively close to one another. As a result, the

spatial allocation of publication groups suggests content-related (dis)similarities based on (dis)similar co-citation patterns. The size of nodes represents the absolute number of citations an article received from the sample of WOM publications (every included publication received > 30 citations). The line thickness depicts the tie strength between single publications, depending on the number of their co-citations from the WOM publications sample. Instead of six silos of distinct origins, Figure 2 reveals two different WOM research wings that are highly connected inside each other. The high frequency of (mostly thick) lines indicates that each wing is strongly connected among central hubs (larger nodes). These hubs stimulate knowledge diffusion within single discourses (e.g. Clemons et al., 2006; Park et al., 2007; Duan et al., 2008a for the *effects of eWOM*) or between discourses within each wing (e.g. Granovetter, 1973; Dellarocas et al., 2007; Trusov et al., 2009 for the left wing).

WOM's capabilities:

- 1: Effects of eWOM
- 5: WOM referral management
- 6: Interpersonal influence

Antecedents of WOM:

- 2: Service failure and complaints
- 3: Customer-brand relations
- 4: Perceived quality and satisfaction

Since research streams that are positioned next to one another share intensive links, we can deduce high degrees of collaboration and knowledge transmission. In line with the reflections from Table 4, each wing thus seems to represent a shared perspective towards WOM: The left wing displays discourses that primarily address *WOM's capabilities* to exert behavioral and economic impacts. This includes evaluating the effects of eWOM, optimizing firms' abilities to shape WOM referrals, and illuminating underlying informational influences between senders and receivers (e.g. for innovation diffusion). The right wing unites more established and broader consumer behavioral research that does not regard WOM as the focal construct but depicts meaningful foundations for WOM scholars investigating the *antecedents of WOM*. This perspective in-

cludes service-focused and satisfaction-focused research as well as relational antecedents of various post-purchase behaviors.

In addition to the impression of a divided research landscape, Figure 2 also displays meaningful publications that serve as important bridge builders between the two wings. Although written in the typical standalone fashion of popularization journals, Reichheld's (2003) article in the *Harvard Business Review* established a strong link between customer-brand relations research to the left wing (especially to the effects of eWOM and WOM referral management) by introducing the net promoter score (NPS) – a highly prominent measure that enables marketers to use loyal customers for customer referral management. Further, two comprehensive studies on customer-brand-relational antecedents of WOM (Brown et al., 2005; Matos & Rossi, 2008) provide valuable glimpses into how to induce effects of (e)WOM and how to exploit WOM marketing's potential. Other bridges between the two WOM perspectives have been established by research on interpersonal influence: Murray's (1991) explorations of information needs, risk perceptions, and acquisition strategies for service consumers diffused among the two wings. Moreover, Buttle's (1998) conceptual (contingency) model of personal influence urges one to integrate knowledge on antecedents and consequences of WOM, building an important bridge between the two wings, particularly between the effects of eWOM and the research on customer-brand relations.

To objectify the graphic suggestions and literature-based interpretation of connections among and between the two WOM perspectives at an aggregated level, this study applied network density measures.⁵ High density scores point to extensive intellectual connections, while low density scores indicate more independent research streams with less intensive information exchanges. Table 5 provides density measures for each discourse and for both wings of the WOM research

⁵ According to Hannemann and Riddle (2005), the average tie strength is utilized as a cut-off score to dichotomize the co-citation data for density calculation.

landscape (*italics*). The density scores validate the interpretation of the (graphically separated) wings as two superior research perspectives. Indicated by a 52% network density, there is a strong exchange of ideas between research on the effects of WOM, WOM referral management, and interpersonal influence (*WOM's capabilities*). Research on the *antecedents of WOM* appears to be even more intertwined: The discourses of service failure and complaints, customer-brand relations, and perceived quality and satisfaction depict very dense networks (density score: 63%). The relatively weak knowledge diffusion between the two perspectives/wings of WOM research (network density: 16%) indicates that each wing represents a specific *orientation* that addresses WOM in a similar way and that shares key research objectives as well as most prevalent concepts, theories, measures, methods, or data.

Table 5: Network density within and between higher WOM orientations and discourses

Higher WOM orientation (wing)	WOM's capabilities (left wing)				Antecedents of WOM (right wing)		
	Discourse (No.)	1: Effects of eWOM	5: WOM referral marketing	6: Interpersonal influence	2: Service failure and complaints	3: Customer- brand relations	4: Perceived quality and satisfaction
<i>WOM's capabil- ities</i>	1	90%	32%	26%	4%	18%	3%
	5		97%	50%	4%	14%	3%
	6			89%	23%	34%	13%
			52%			16%	
<i>Ante- cedents of WOM</i>	2				97%	51%	57%
	3					88%	55%
	4						100%
						63%	

The following comparison of density scores between single research streams enhances the understanding of specific more or less existing knowledge transfer patterns between discourses. As indicated by Figure 2, the publications on WOM referral management are scattered between both “ends” of research on *WOM's capabilities*. Substantiated by relatively high density scores with this orientation's two other streams, the application driven nature of WOM referral management

research seems to foster knowledge diffusion: Since optimal referral reward programs (e.g. Biyalogorsky et al., 2001; Ryu & Feick, 2007) or WOM as effective means for marketers (Goldenberg, Libai, & Muller, 2001) are affected by the dyadic influences between senders and receivers, rich theoretical knowledge such as social exchange theory (e.g. Frenzen & Nakamoto, 1993) or tie strength (Granovetter, 1973) is retrieved from research on interpersonal influence (density: 50%). On the other end, WOM referral management research also seeks to utilize the arising effects of eWOM (density: 32%): To effectively capitalize on WOM referrals, key influencers have been identified that drive sales (Godes & Mayzlin, 2009), and WOM referrals' effects on new member signups have been compared to traditional marketing actions (Trusov et al., 2009).

For research on the *antecedents of WOM*, intense co-citation patterns indicate a strong exchange of ideas: Network densities exceed 50% among every discourse attached to this research orientation. Since the discourses provide prominent and complementary concepts, measures, and methods (see Section 3.2.2), one finds strong tendencies to jointly consult discourses' knowledge. Particularly the discourse on perceived quality and satisfaction provides fundamental concepts (e.g. expectancy disconfirmation) and measures (e.g. SERVQUAL) applied in related fields, such as for unfavorable service encounters and complaining behavior (e.g. Bitner et al., 1990; Blodgett et al., 1997). Further, research on customer-brand relations "borrows" or extends concepts and measures from the second and fourth discourse (e.g. Anderson & Sullivan, 1993; Blodgett et al., 1993; Oliver, 1993), while they apply the substantial methodological contributions on cause-effect modeling from research on customer-brand relations (e.g. Baron & Kenny, 1986; Bagozzi & Yi, 1988; Podsakoff et al., 2003).

In line with the abovementioned (singular) bridge builders' heritage, most systematic ties between the two higher WOM orientations have been established by research on customer-brand relations and the discourse on interpersonal influence (density score: 34%). The two discourses

share a strong focus on consumers' relationships – either among customers as senders and receivers of WOM (e.g. homophily or tie strength) or between customers and brands (e.g. commitment or trust). Although superior brand relationships should strongly affect (e)WOM outcomes or WOM referral management, Fournier's (1998) prominent development of (brand) relationship theory is not embedded in research on WOM's capabilities. Further, weak co-citations in research on the effects of eWOM or WOM referral management with articles on service failure and complaints (density scores: 4%) or perceived quality and satisfaction (density scores: 3%) indicate limited helpfulness of knowledge exchanges between the two WOM research orientations: Oliver (1993) improved customer satisfaction's predictability by integrating consumer affects. Although one would expect consumer affects to be very relevant to WOM's capabilities, Oliver's (1993) suggestions were not borrowed from research on WOM referral management. Another example relates to managing customer complaints and re-patronage intentions as reactions to perceived (in)justice (Blodgett, 1993; Blodgett et al., 1997). Although the discourse on service failure and complaints would help one to understand underlying mechanisms for managing WOM (e.g. to prevent negative WOM cascades), its equity theory framework has not been connected to research into WOM referral management.

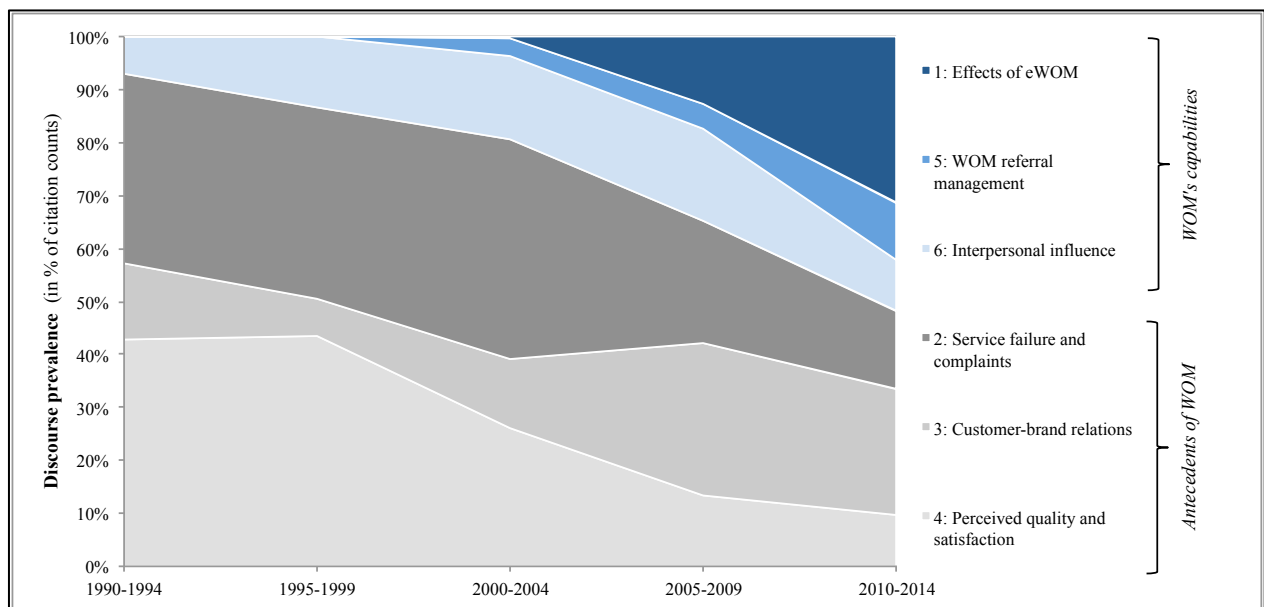
The intellectual distances between the two higher WOM orientations reveal substantial white spots in the WOM research landscape. Although both perspectives on WOM complement each other, they appear as two mostly disentangled WOM research agendas. Only a few bridges have been built that strengthen knowledge exchange between the two research orientations.

3.3.2 Understanding WOM research's development over time

After gaining detailed insights into two subordinate research orientations that unite similar WOM discourses, this chapter applies a dynamic perspective to illuminate the development of the

outlined research streams and orientations over time. The analysis has identified dominant intellectual pillars for specific periods that have shaped the development of the entire WOM research system and that help us to infer whether research on WOM's capabilities and on the antecedents of WOM tend to converge or diverge. This study derived the importance of a single discourse from the cumulated citations of each stream in the sample of WOM publications (n = 1,351 search results), in five-year time-slices. Figure 3 displays a major shift in discourse prevalence over time.

Figure 3: The prevalence of WOM research discourses (and higher WOM orientations) over time



Between 1990 to 1999, the second and fourth discourses were dominantly referenced by WOM scholars, while research on *WOM's capabilities* was barely cited. In this time, offline measures dominated, and research frameworks on satisfaction, service quality, failure, and recovery were very popular. Nowadays, we can draw a freer picture of the relevant discourses. However, the discourse on the effects of eWOM has lifted research on *WOM's capabilities* into the predominant research orientation in future. Stimulated by new data sources and innovative analy-

sis opportunities, research on online WOM evolved in the early 21st century and accounted for almost one-third of all citations between 2010 and 2014. At the same time, commercial opportunities to capitalize on WOM have increased, and publications empowering marketers to benefit from the vast user-generated content are increasingly cited: Studies reveal the relationships between consumer reviews and review helpfulness (e.g. Mudambi & Schuff, 2010) or sales rankings (e.g. Forman, Ghose, & Wiesenfeld, 2008; Li & Hitt, 2008). As a result, the relevance of research on WOM referral management increased in the past 15 years.

Simultaneous to the proliferation of research into eWOM's behavioral or economic impact and its marketing utilization, the relevance of established and previously dominant research on service failure and complaints or perceptions of quality and satisfaction is diminishing: Measures and methods no longer fit the huge amounts of numerical or textual online data, and existing (offline) theory is increasingly found to be "inappropriate to describe online WOM and its influence on evaluation and purchase" (Brown, Broderick, & Lee, 2007, p. 2). The declining references to the discourse on interpersonal influence also appear methodologically driven, as theory of social exchange, tie strength, or information and innovation diffusion should be more relevant than ever in times of viral marketing and WOM advertising: Although experimental research such as the usage of information display boards (e.g. Murray, 1991) could be integrated in investigations of eWOM's effects on decision-makers, they are less requested by current WOM scholars.

As the only stable representative of the *WOM antecedent* orientation, publications that address customer-brand relations or improve methodological knowledge were increasingly cited in the past 10 years. Cause-effect models still represent a widely applied research methodology, particularly for offline research that parenthetically conceptualizes WOM intentions or behaviors as additional dependent variables. Further, distinct customer-brand connections serve as promising reference points for marketers to affect customer engagement (Van Doorn et al., 2010) and de-

sired post-consumption behaviors such as loyalty or WOM (Carroll & Ahuvia, 2006). The attempts to explore designable (long-term) antecedents of WOM are intensifying and are expected to be spread among more application fields than service research (especially tourism) (e.g. Hudson et al., 2015; Nyffenegger et al., 2014).

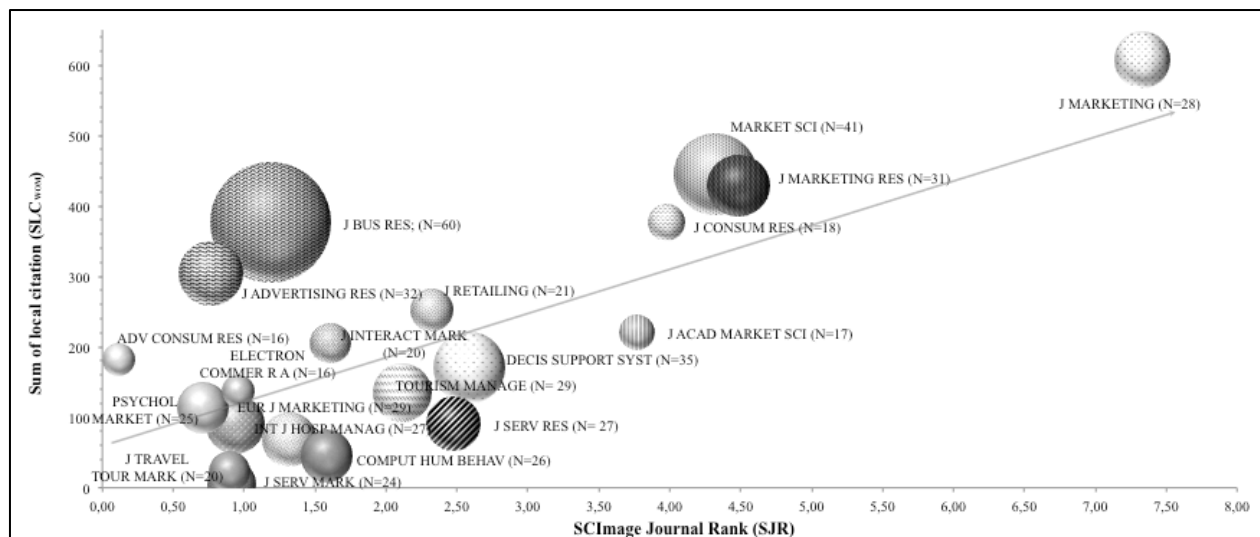
The evolution of the WOM research landscape over time is putting previous findings and interpretations among the two research orientations into perspective. Such temporal development further substantiates the picture of modern research on *WOM's capabilities* as substitute that tends to mostly become disentangled from previous methodological or conceptual knowledge on the *antecedents of WOM*. The diminishing attention on investigations into WOM's antecedents is somewhat surprising, since more and more studies confirm eWOM's economic and behavioral impacts and a thorough understanding about the underlying mechanisms and (firm-related) drivers facilitates the exploitation of these eWOM potentials according to marketing goals.

4. Insights at the journal level: Identifying WOM knowledge carriers

Empowered by the in-depth understanding of meaningful publications, their associated co-citation structure, and temporal evolution, this section will now provide perspectives for utilization of the previously gained knowledge. A journal-level publication guide is developed that addresses the overall WOM research domain and its distinct (sub)streams. This study combined multiple measures to evaluate the quantitative relevance and the qualitative value of journals as sources of or outlets for WOM knowledge. The first analysis presents WOM journals of general relevance and the second analysis then evaluates the journals' adequacy as vehicles to continue distinct discourses on WOM in each WOM research orientation.

The SCImago Journal & Country Rank (SJR) offers valuable insights into a journal's overall impact or prestige in a broader domain (e.g. marketing), based on weighted citations.⁶ However, this indicator does not allow one to draw inferences on a journal's relevance for a specific marketing research subfield such as WOM research. Based on the *sample of WOM publications*, Figure 4 depicts the overall impact of a journal, as represented by the SJR indicator, combined with the sum of local citations (SLC_{WOM}), which publications of a specific journal have earned in WOM research. The bubble size represents the number of published articles of a journal in the WOM field.

Figure 4: Citation-based portfolio of key WOM research journals



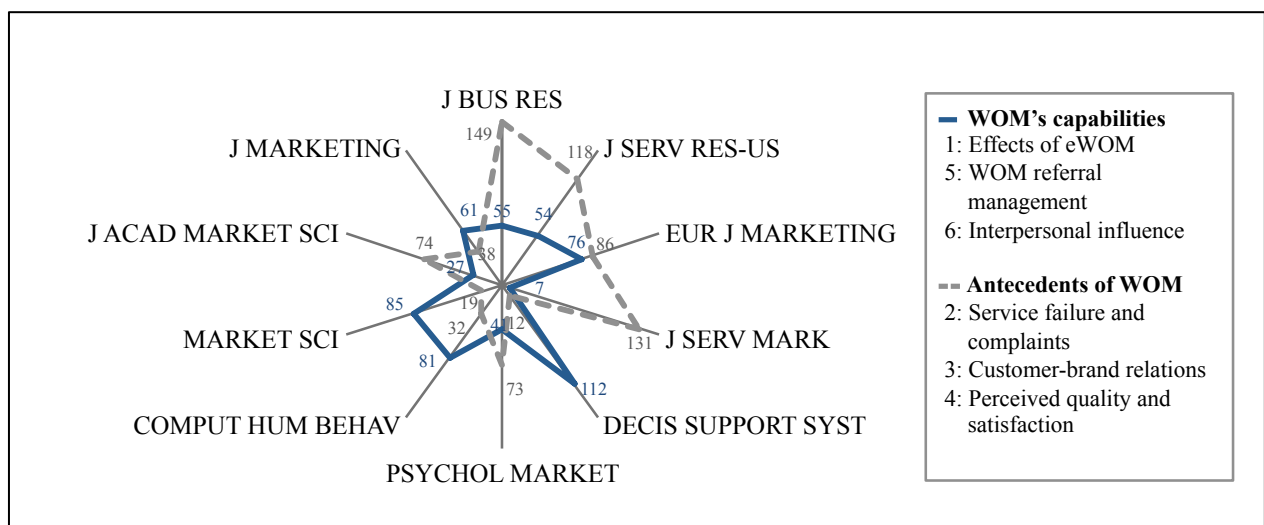
Journals positioned above the trend line are disproportionately important for the WOM field, while journals below this line are of high general relevance but disproportionately under-involved in WOM research. The citation-based importance of journals in the upper left area, especially *Journal of Business Research* (60 WOM publications) and *Journal of Advertising Research* (32

⁶ The complete list of most actual SCImago Journal Rank (SJR) indicators from 2014 is used. It expresses the average number of weighted citations received in the selected year by documents published in the journal in the three previous years (SCImago 2014).

WOM publications), indicates some sort of specialized WOM knowledge: Although the overall importance of these journals appears to be limited based on SJR, the number of citations received by WOM scholars is disproportionately high. With 41 WOM-related publications, *Marketing Science* is positioned as a top-tier marketing journal of special relevance for WOM scholars. Primarily specified on eWOM, *Decision Support Systems* delivered 35 publications since its first WOM-related publication in 2008 (Duan et al., 2008a). Although the journal is assigned to the discipline of computer science, strong citation patterns in the WOM publication sample in recent years indicate that publications from this journal tend to affect future WOM research endeavors.

After learning about the journal landscape for the entire WOM research field, Figure 5 draws a more differentiated picture on most relevant journals, depending on the outlined WOM research orientations. To help steer WOM scholars and practitioners dedicated to a specific WOM orientation, it is outlined which journal to read or to address with which WOM-related research questions. Based on the *sample of WOM references*, Figure 5 contrasts most publishing journals for research on WOM's capabilities (especially involving eWOM) as opposed to the theoretically rich but mostly service-focused research on broader WOM fundamentals (antecedents of WOM).

Figure 5: Most relevant journals for each higher WOM research orientation



For readings and publication opportunities regarding the capabilities of WOM research (particularly on the effects of eWOM), the illustration suggests paying attention to *Decision Support Systems* and *Computers in Human Behavior*. The increasing publications from computer science utilize online data such as consumer reviews for comparing the effects of eWOM volume (e.g. number of reviews) or eWOM valence (e.g. star ratings of reviews) on sales in large-scale econometric models (e.g. Duan et al., 2008a). *Marketing Science* and *Journal of Marketing* provide marketing practitioners and scholars interested in WOM referral management with numerous insights. Also, both journals tend to favor the use of complex and innovative methodology for deriving insights from online WOM conversations (e.g. Mayzlin, 2006; Trusov et al., 2009). Since interpersonal influence studies mostly involve a strong theoretical accentuation, such knowledge particularly appears in the *Journal of the Academy of Marketing Science* (or the *European Journal of Marketing*).

Due to the strong accentuation of service specificities within the discourses on the antecedents of WOM, *Journal of Service Research* and *Journal of Service Marketing* are found to be highly relevant outlets. Since research endeavors from the antecedents of WOM orientation tend to position WOM as an additional dependent variable, publications in their target journals tend to reflect on WOM in a broader context of post-consumption behaviors. As a broader business journal, the *Journal of Business Research* thus appears to be particularly important for research into service failure and complaints as well as studies on customer-brand relational antecedents of WOM.

Since the top-tier journals *Journal of Marketing*, *Marketing Science*, and *Journal of Marketing Research* are heavily engaged in WOM research, WOM seems to be acknowledged as a hot topic in marketing research. Further, analyses have revealed that certain journals serve as valuable outlets (or provide readings) for specific perspectives on WOM: Substantially different journal sets

forward research for each higher WOM orientation depending on a journal's scope (e.g. theoretical-conceptual orientation as opposed to a focus on specific methodology or data).

5. Discussion

Positioned at the intersection of multiple non-buying behaviors, broad research with heterogeneous objectives, methods, and conceptual backgrounds has been contributing to the knowledge on WOM and continue to do so. Based on 1,351 journal publications of multiple research areas from 1957 to May 2015, this research has depicted meaningful intellectual pillars of WOM research and promotes an understanding of how WOM research has evolved. The study establishes a shared understanding about WOM and its intellectual structure that helps to prevent silo mentalities and encourages knowledge diffusion for future research.

5.1 Summary and interpretations of primary findings

Among the heterogeneous perspectives investigating customer-to-customer communications, this study identified a cohesive core of WOM research that presents guidance and foundations for most WOM scholars. Early perspectives from core WOM publications included theoretical research on personal influence and persuasion (Katz & Lazarsfeld, 1955), WOM advertising (Dichter, 1966), and WOM in innovation diffusion (Arndt, 1967). Works on deriving meaning and sales impact from eWOM (Godes & Mayzlin, 2004; Chevalier & Mayzlin, 2006) can be regarded as milestones for the emancipation of WOM research from its intellectual roots and its emergence as a distinct consumer research field. However, this shift towards online product reviews and marketing managers' focus on seeding online "buzz" raises questions about the extent of consideration of specific knowledge from established consumer behavior research fields such as on the drivers of WOM or other post-consumption behaviors.

For structuring all meaningful subfields of specific WOM research, publications can be divided into coherent research streams according to similar research objectives, methods, or theoretical backgrounds. This study has uncovered six research streams that are organized in two different – internally intertwined – research orientations. These subordinate “schools of thought” separate research focusing on the antecedents of WOM and on WOM’s marketing capabilities.

Research on the antecedents of WOM provides in-depth examinations of consumer experiences and their importance for diverse behavioral consequences such as satisfaction, loyalty, or WOM behaviors. Although the discourses connected to this WOM research orientation address WOM only parenthetically as one dependent variable, they have established meaningful concepts and theoretical frameworks (e.g. theories of relationship marketing or service marketing) to embed consumers’ post-consumption behaviors. Contributions address perceived quality, customer satisfaction, customer-brand relationships, service failures, and recovery as antecedents of WOM. The strong service focus in this research orientation can be explained by WOM’s ability to reduce decision-makers’ risk perceptions in a field characterized by experience qualities and high uncertainty (e.g. Ennew, Banerjee, & Li, 2000; Sweeney, Soutar, & Mazzarol, 2014). Current WOM publications such as in the growing field of tourism draw on the combined knowledge of these three discourses, to understand the effects of quality, satisfaction, service recovery, commitment, or trust in WOM behaviors (e.g. Hutchinson, Lai, & Wang, 2009; Kim, Kim, & Kim, 2009).

The relatively younger research orientation addresses WOM’s capabilities and benchmarks WOM’s behavioral or economic impacts on traditional advertising means. This includes the fulfillment of information needs of WOM receivers, senders’ decisions to transmit WOM, and firms’ customer referral management. Here, the discourse on interpersonal influence serves as a provider of theoretical fundamentals particularly for WOM referral management (e.g. social exchange, tie strength). Stimulated by ubiquitous consumer reviews and their severe impact on sin-

gle purchase decisions, studies on the effects of eWOM rapidly emerged as a key pillar of WOM research that is increasingly shaping the development of the entire WOM research landscape. By offering revenue forecasts using eWOM (e.g. Clemons et al., 2006; Dellarocas et al., 2007), the discourse serves as proof of relevance that motivates WOM referral management research: Referral reward systems are optimized (e.g. Ryu & Feick, 2007), and WOM referrals' effects on customer acquisitions are compared to traditional marketing actions (e.g. Trusov et al., 2009). These attempts to understand and exploit eWOM for firms' referral management are expected to intensify and spread to more application fields as customers' propensity to share eWOM is growing.

By combining the insights of network analysis and developments over time, this study found no indications that the proliferation of research on the effects of eWOM and WOM referral management are complemented by increasing references to the established and theoretically founded research on the antecedents of WOM. A low knowledge exchange indicates that both higher WOM orientations seem to co-exist rather than being used to complement each other. Although meaningful bridges between the two orientations have been established (e.g. Murray, 1991; Buttle, 1998; Reichheld, 2003; Brown et al., 2005; Matos & Rossi, 2008), the former hot topics of service quality, customer satisfaction, or relationship marketing (see Lemon & Verhoef, 2016) appear to have been more or less replaced by modern (online) WOM research.

To explain the weak links between the higher WOM research orientations, it must be stressed that different research objectives require different data and methodology: Discourses on the effects of eWOM and WOM referral management mostly apply complex econometric models based on large online datasets (e.g. Amazon reviews, sales rankings, or new member signups on online social networking sites), while the established orientation towards the antecedent of WOM mostly applies more "traditional" marketing research (e.g. scale development, focus groups, or SEM). Drawing on multi-item measures or using focus groups is either unsuitable or appears as

more demanding and less proximate than automated scanning of large online WOM data. The journals' tendencies to reward sophisticated quantitative investigations might further accelerate perceptions that established metrics and indicators (e.g. SERVQUAL) are perceived as less effective (see Marketing Science Institute, 2016). The journal-level analysis substantiates the presence of such patterns for WOM research by revealing a high relevance of computer science journals and marketing journals that favor the use of innovative data sources and methodology (e.g. mining online conversations or econometric models).

Owing to the domain-neutral nature of this research, this studies' results complement previous literature reviews (e.g. Libai et al., 2010; Berger, 2014; King et al., 2014) by integrating previous findings not only in the field the authors are involved in, but also from related fields. Unlike most recent meta-analyses (e.g. Floyd et al., 2014; You et al., 2015; Babić Rosario et al., 2016), this study integrated offline and online WOM and revealed substantial intellectual distances between the capabilities of (mostly electronic) WOM and offline-investigated antecedents of WOM. The WOM capabilities orientation seems to display promising future WOM research directions, while the strongly interrelated discourses on the antecedents of WOM particularly present more established broader consumer behavioral research. Although research on the antecedents of WOM could be highly beneficial for optimizing the management of customer referrals and for better controlling the effects of eWOM (e.g. Baker et al., 2016), the ubiquity of data and struggle for "sophisticated" models tend to further increase the tendency towards a research system of two mostly disentangled research orientations.

5.2 Directions for future research

Future scholars are urged to incorporate the rich conceptual – and if applicable – methodological knowledge of offline discourses that address consumer experiences as antecedents of WOM

and that have only barely been connected to the innovative approaches in eWOM or WOM referral management. Specific opportunities will be outlined on how to address detected white spots.

The diminishing needs of modern (e)WOM research to draw on methodology or metrics from the discourses on the antecedents of WOM carries the danger of losing meaningful theoretical marketing knowledge in the strongly data-driven research on eWOM. Based on consumers' perceptions of justice and fairness (equity theory), service failure and recovery studies provide rich understandings of the underlying mechanisms of unfavorable consumer reactions (e.g. Tax et al., 1998; Smith et al., 1999; Maxham, 2001). Although equity theory could substantiate knowledge (and companies' reactions) to cascades of negative WOM in social media and social contagion, it has not yet been sufficiently applied in studies on WOM referral management or eWOM's effects. Thus, future research on WOM's capabilities should use the revealed potentials for improving its theoretical foundations by increased incorporation of ideas that stem from established research into the antecedents of WOM.

Network analysis has further revealed a limited diffusion of customer-brand relations knowledge to WOM referral management or the effects of eWOM. Although Reichheld's (2003) net promoter score (NPS) has been incorporated and is perceived as a milestone for an active WOM referral management, its related theoretical frameworks on customer-brand relations as antecedents of WOM have only barely been retrieved. Research into the management of WOM referral tends to have moved away from customer-brand-related antecedents towards seeding programs (e.g. Libai, Muller, & Peres, 2013) or monetary incentivized referral reward programs (RRPs) (e.g. Verlegh et al., 2013). Despite repeated calls for additional research into the antecedents of WOM (e.g. Brown et al., 2005; Lovett et al., 2013), only singular studies have connected brand relationship qualities to WOM (Nyffenegger et al., 2014; Hudson et al., 2015). No referral management study has yet applied Fournier's (1998) brand relationship qualities as distinct driv-

ers of differentiated (e)WOM referral behavior. To create desired types of brand advocates, future research is encouraged to incorporate different qualities of WOM messages, rather than conceptualizing WOM only parenthetically as in research on customer-brand relations. Such synthesis with the discourse of WOM referral management would empower marketers to shape desirable forms of WOM beyond seeding activities or RRP.

Even within the research orientation that addresses WOM's capabilities, the limited exchange of ideas between research on the effects of eWOM and its exploitation in WOM referral management indicates that further research must strengthen this relationship. Additional metrics and specific procedures may be suggested to measure the effects of eWOM even before sales and brand equity reactions occur. As a source of marketing research, rich eWOM data (of positive and negative WOM) can be managed for strategic marketing purposes (e.g. Lee & Bradlow, 2011; Tirunillai & Tellis, 2014; Culotta & Cutler, 2016). Beyond this, innovation diffusion models (e.g. Bass, 1969; Rogers, 1995) could be revitalized to investigate the detailed effects of differentiated (e)WOM communication on innovation diffusion. On this level of granularity, one can distinguish precisely between imitation behaviors and persuasive or informative WOM communications regarding its effectiveness concerning receivers' decisions to adapt an innovation.

Since most WOM communication still occurs offline, this study encourages researchers to generally re-evaluate seemingly outdated research methodology from research on the antecedents of WOM. Scale developments, established metrics, or qualitative research might still provide methodological solutions to extend the knowledge on specific antecedents of distinct WOM transmissions and their attached online and offline marketing potentials. Combining experimental designs with eWOM methodology holds promising opportunities to improve WOM's manageability by connecting its effects with malleable antecedents. Experiments could be built that com-

bine the advantages of both WOM research orientations, such as incorporating consumer review excerpts in experimental research: Information display boards (e.g. Murray, 1991) could be applied to experimentally investigate customers' propensity to rely on online or offline WOM in different (manipulated) contingency settings.

5.3 Implications

This research augments previous literature reviews on WOM literature by not only gathering and describing WOM knowledge from different origins, but comparing their exchange of ideas to derive the intellectual structure of a complex and changing research field. The compact encyclopedic overview of the WOM research landscape orients scholars who are entering the field. Experienced researchers are enabled to locate and evaluate their endeavors in the broader research system to expand conceptual foundations or apply new methods. Scientists that seek to bridge the two WOM research orientations can utilize detected white spots and can underpin the theoretical foundations of strongly data-driven research into eWOM. By outlining differences concerning most relevant journals for each WOM research orientation, this study provides guidance concerning relevant information sources for a specific WOM research subtopic or as outlets for publications. Marketing managers' might utilize the encyclopedic review of this study to approach key carriers of relevant WOM knowledge.

5.4 Limitations

Even though the Web of Science core collection constitutes a comprehensive and well-maintained data source, it is not exhaustive. Thus, not every relevant publication was incorporated into the utilized WOM publication sample. However, by performing co-citation analysis, eventually missing publications will be integrated again if they have been cited frequently by other WOM scholars.

Further, (co-)citation analysis automatically favors major publications from earlier stages of related research fields. Thus, co-citation patterns reflect a state of the research system a certain time before today or even tomorrow (Zupic & Čater, 2015). Although this study included recent publications in its analysis, an objective future outlook cannot be provided, since method objectivity is co-citation-based and therefore backwards-oriented. However, by structuring meaningful research into WOM and identifying white spots, this study provides a solid basis for researchers to address relevant questions as a continuation of or a link between specific discourses.

Despite its high objectivity level, bibliometric co-citation analysis still requires subjective elements such as defined search terms, determination of the data retrieval period, the identification and labeling of research streams, or the interpretation of their interconnections. However, the unique combination of descriptive and inductive statistical analysis on different levels allows for crosschecks and validations of primary characteristics and trends in WOM research.

Appendix

Appendix A

Following the longstanding tradition of bibliometric studies (e.g. Culnan, 1987; White & McCain, 1998; Ramos-Rodríguez & Ruíz-Navarro, 2004; Nerur et al., 2008; Fetscherin & Heinrich, 2015), the present study used the Social Sciences Citation Index (SSCI) as data source. To extract an adequate publication sample, search term definition is critical to bibliometric analysis. Here, a literature review was conducted for benchmarking subjective assessments by the researcher concerning relevant WOM terminology. This study integrated broadly diffused publications in top-tier academic journals and practice-focused popularization journals. In a next step, the derived search term list was complemented by keywords from previous meta-analyses (Floyd et al., 2014; Babić Rosario et al., 2016). Since these authors focused only on electronic WOM (eWOM), this study made slight variations to reduce the strong emphasis on eWOM and user-generated content. The search terms of this procedure are outlined on the left in Table A.1.

As new insights are often generated at the intersection between disciplines, the assumed WOM knowledge was collected from multiple disciplines. Relevant research areas from the SSCI included *business and economics*, *computer science*, *social sciences other topics*, *psychology*, *information science* *library science*, and *communication*. This scope resulted in 2,294 double-blind, peer-reviewed articles in the defined areas of interest. Since the SSCI partly allocated publications to more than one research area, the number of publications was reduced to 1,812 publications (without duplicates).

The final step in the data retrieval procedure is data purification. This study applied “keyword-plus cleaning”, since journals or databases offer (varying) keywords in addition to the ones provided by a publication’s authors. Titles, abstracts, and authors’ keywords of the 1,812 publications were inspected to ensure that the present study included only publications that are the result

of the defined search terms. Accordingly, publications were eliminated retrieved solely owing to hits on keywords-plus-level but where there were no indications of the search terms in titles, abstracts, or authors' keywords. Thus, 1,351 publications constitute this study's final publications sample. Table A.1 summarizes the stages and research areas of the included publications, leading towards the final *sample of WOM publications*.

Table A.1: Search terms and the data retrieval process

Search terms	Cumulated hits: Core Collection, SSCI (articles only)	Cumulated hits in Core Collection, SSCI aligned to relevant research areas (articles only)					
		Business economics	Computer science	Social sciences other topics	Psychology	Information science library science	Communication
"word of mouth" OR	+1,928	+1,218	+231	+215	+177	+139	+127
"product review*" OR	+79	+33	+25	+1	+4	+17	+3
"customer review*" OR	+29	+17	+8	+5	+1	+5	+0
"consumer review*" OR	+22	+9	+5	+2	+2	+3	+1
"customer recommendation*" OR	+5	+4	+1	+0	+2	+0	+0
"consumer recommendation*" OR	+3	+1	+0	+0	+1	+0	+0
"customer referral*" OR	+4	+4	+0	+0	+0	+0	+0
"consumer referral*" OR	+3	+2	+0	+0	+0	+0	+0
"eWOM" OR	+4	+1	+1	+1	+0	+0	+2
"online review*" AND (consumer* OR customer*) OR	+18	+9	+7	+2	+2	+2	+0
("referral behavior*" OR "referral behaviour*") AND (consumer* OR customer*)	+3	+3	+0	+1	+0	+0	+0
<i>Sum of articles allocated to a research area</i>	<i>2,098</i>	<i>1,301</i>	<i>278</i>	<i>227</i>	<i>189</i>	<i>166</i>	<i>133</i>
<i>Sum of articles from six research areas (incl. duplicates)</i>							<i>2,294</i>
<i>Sum of articles after cleaning of duplicates (articles assigned to several research areas)</i>							<i>1,812</i>
<i>Sum of articles after "keyword-plus-cleaning"</i>							<i>1,351</i>

Appendix B

Table B.1: Top five characteristic concepts for each research stream

<i>WOM's capabilities</i>								
Concept	Relative occurrence in discourse	Count	Concept	Relative occurrence in discourse	Count	Concept	Relative occurrence in discourse	Count
<i>1: Effects of eWOM</i>			<i>5: WOM referral management</i>			<i>6: Interpersonal influence</i>		
Product	100%	71	Referrals	100%	18	WOM	100%	14
Online	100%	71	Rewards	100%	18	Theory	64%	9
Reviews	63%	45	Effects	94%	17	Information	50%	7
Effect	27%	19	Marketing	83%	15	Interpersonal	50%	7
Information	27%	19	WOM	78%	14	Service	50%	7
<i>Antecedents of WOM</i>								
Concept	Relative occurrence in discourse	Count	Concept	Relative occurrence in discourse	Count	Concept	Relative occurrence in discourse	Count
<i>2: Service failure and complaints</i>			<i>3: Customer-brand relations</i>			<i>4: Perceived quality and satisfaction</i>		
Service	100%	51	Satisfaction	100%	33	Quality	100%	25
Satisfaction	39%	20	Loyalty	52%	17	Satisfaction	88%	22
Failure	31%	16	Relationship	48%	16	Service	80%	20
Recovery	25%	13	Commitment	30%	10	Disconfirmation	56%	14
Complaining	24%	12	Trust	27%	9	Intentions	36%	9

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