

Mapping interaction and interdependence within the B2B marketing literature over time

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Abstract

In a world in which many if not all companies have relationships and have to handle interdependencies, it is timely to conduct a systematic literature review of the two central ideas in IMP, interaction and interdependence. The purpose of the paper proposed here is to conduct a systematic literature review of these two concepts and to map how they have been utilised within the IMP and broader B2B marketing literature over time. This will facilitate assessing the impact of the two concepts, both with IMP and the wider B2B literature and thus providing a ground for discussing IMP's uniqueness and place in the B2B community in a business world in which all companies have relationships. It is relevant to discuss as it is a reflection of the conceptualisation or formalisation of IMP ideas and whether and how these are applied in any systematic way. Moreover, it might aid in making clearer what IMP stands for to the (perhaps confused) outsider. The literature review will follow the methodology for developing a protocol and conducting a review outlined by Tranfield, Denyer and Smart (2003). That is, we will perform a systematic literature review as a three-stage process; (i) planning the review, (ii) conducting a review, and (iii) reporting and dissemination. Our analysis of the resulting EndNote library will be underpinned by the Leximancer tool.

Keywords: interaction, interdependence, B2B marketing, Leximancer, IMP

INTRODUCTION

Interaction and interdependence are the two fundamental ontological assumptions underpinning 40 years of empirical research. They are said to be an essential part of what makes IMP, as an empirically-based theory, unique in B2B research (Araujo & Easton, 1996; McLoughlin & Horan, 2002; Ritter & Gemunden, 2003; Möller, 2013; Harrison & Kjellberg, 2014; Cova, et al, 2015). Recent research focuses on interaction patterns between a start-up and its partners (e.g. Oukes & von Raesfeld, 2016) and the benefits and 'dark side' of interdependencies (Freytag et al, 2017). In the paper proposed here, we aim to conduct a systematic literature review of these two concepts and to map how they have been utilised within the B2B marketing literature over time.

We build and interrogate a database of relevant articles from IMP and related approaches by asking questions such as 'how is the concept of interaction/interdependence defined', 'what is interacting', 'who is interacting', 'is it a state, process or something else', etc. This will provide us with a comparative understanding both of the development of how the two concepts have been used over time within the IMP community, and of the same in the broader B2B marketing field.

This comparative understanding will facilitate us in assessing IMP's uniqueness. For example, how has the use of the concepts diverged or converged in IMP-related literature as well as in other B2B areas? It will also allow for a clearer appreciation of the two concepts, both within IMP and how they relate to the wider B2B literature. It is relevant to discuss as it

is a reflection of the conceptualisation or formalisation of IMP ideas and whether and how these are applied in any systematic way.

The paper proceeds as follows. We first outline how we have conducted our systematic literature review. Next, we provide a descriptive review. That is, general patterns in the resulting EndNote library are highlighted. Afterwards, we proceed to an analytical review. This is only partially complete. At present, it is concerned with a systematic overview of the concepts using Leximancer as an analysis tool. The final section of the paper briefly describes our proposed next steps.

METHODOLOGY: A SYSTEMATIC LITERATURE REVIEW

We followed the methodology for developing a protocol and conducting a 'systematic literature review' outlined by Tranfield, Denyer and Smart (2003). That is, a three-stage process of; (i) planning the review, (ii) conducting a review, and (iii) reporting and dissemination.

In the first phase, '*planning the review*', the initial keyword searching / strings 'interaction', 'interdependence', 'relationship' and 'network' were entered into EBSCO via the Business Source Complete database. This resulted in 22,593 hits! We then focused the search protocol by limiting it towards B2B. This produced a more manageable 634 hits.

In phase two, '*conducting the review*', the 634 hits were manually checked, and all duplicates were eliminated. Moreover, 154 articles with no obvious B2B references and/or articles using interaction/interdependence in a non-theoretical fashion were removed. The remaining articles were sorted in three sub-groups: 364 that were relevant, 29 potentially relevant, and those remaining which were categorised into their main subject: Guanxi, e-B2B or SoMe (social media). The two latter groups were then manually checked and later excluded from further study, which eliminated 85 articles. A few articles were not accessible for download and thus also excluded.

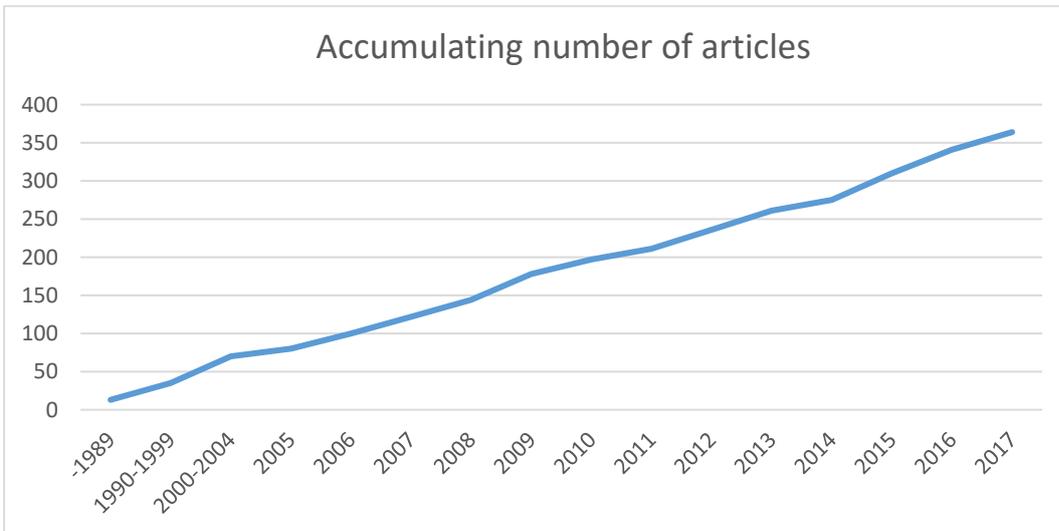
The end result of this thorough process was **356** articles. These were downloaded and sampled in an EndNote library, ready for further interrogation.

DESCRIPTIVE REVIEW

In this section, we will discuss the basic patterns in the EndNote library in several ways. This will be both in terms of the accumulation of articles over time in which the concepts are used, and the publication outlets in which these articles appear.

First, we observed a large increase in the number of journal articles discussing issues related to interaction and interdependence from 2005 to date. This basic pattern is illustrated in Figure 1 (below). It perhaps reflects the growth of the IMP community generally or how other B2B literatures have started to use these concepts.

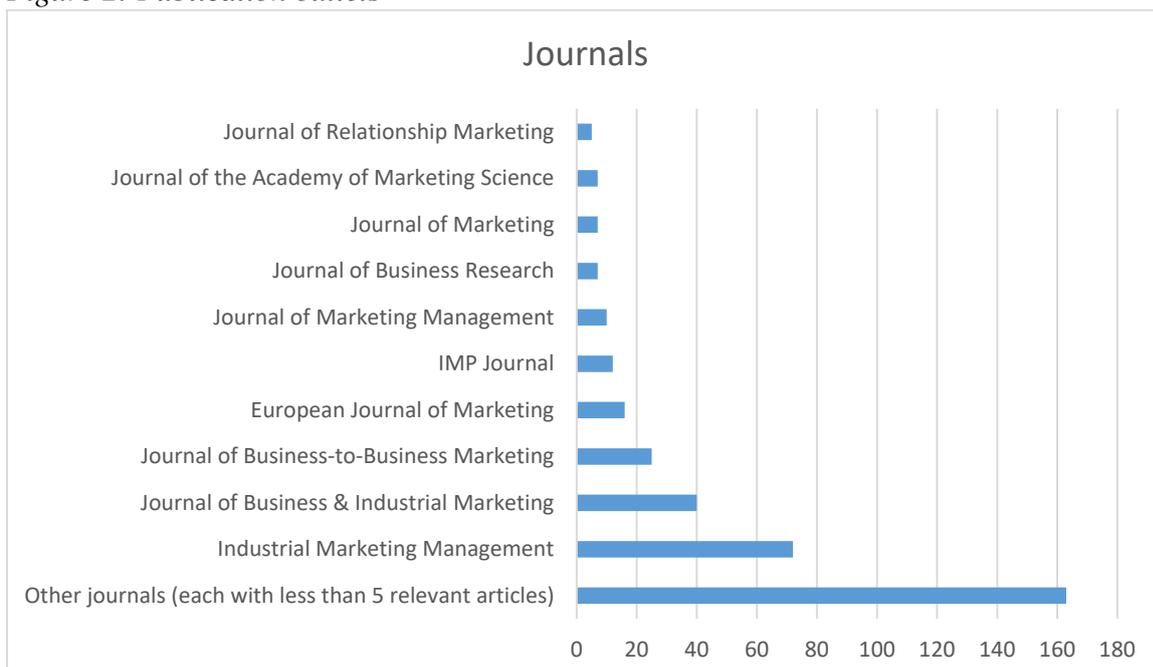
Figure 1: The accumulation of the number of articles included in the review



Second, we considered the patterns involved in publication outlets. Most articles on business-to-business interaction and interdependence cluster in three journals: *Industrial Marketing Management*, *Journal of Business & Industrial Marketing*, and *Journal of Business-to-Business Marketing*. One simple potential explanation of the dominance of *Industrial Marketing Management* is the ongoing links between the IMP community and this journal, e.g. the regular conference special issue.

It is interesting how a large number of journals are represented in our study that have only 5 or fewer articles discussing interaction and interdependence (illustrated in the low bar in Figure 2). The articles from these journals account for almost half of the articles included in the study. For the final version of the paper, we plan to cluster these according to focus (e.g. service, retailing and others). This will open for more fine-grained investigation of the potential specific contributions from these.

Figure 2: Publication outlets



ANALYTICAL REVIEW

The first part of our analytical review of our EndNote library was to read and review the abstracts of all the articles. The goal here was to position ‘interaction’ and ‘interdependence’ in terms of the various conceptualisations and B2B marketing themes discussed in the literature. Following the basic reading exercise, a record sheet was completed for 20 selected articles chosen to represent differences in publication year and journals. This was effectively a ‘pilot reading’ of the 356 article EndNote library.

For each article, a record was developed concerning the definition of the central concepts (interaction, interdependency, relationships, networks); what and who is interacting and for what purpose (managing, working with customers or the like); research methodology utilised as well as level of analysis; and finally, the main findings of each paper. This process was to provide us with an in-depth appreciation of the concrete conceptualisation of ‘interaction’ and ‘interdependence’.

This selected reading provided insights from different B2B-related fields: Transaction Cost Economics, Social Exchange Theory, IMP as well as social practices. Moreover, and not surprisingly, the different levels of analysis range from individuals to firm, relationship and network. Several notions of interdependence were recorded related to strategy, dynamics as well as time, uncertainty and governance. Finally, interaction was noted as closely connected to issues of trust, commitment, norms and expectations of value. For the final version of the paper, we plan to read all of the articles in the EndNote Library in this systematic way.

We have also utilised the computer-aided textual analysis software Leximancer in order to allow for a systematic and comprehensive analysis of *all 356 articles*. Leximancer adds reliability by using machine learning to automatically and entirely code the text rather than using the researcher’s interpretations to do so. The software builds on the basic semantic analysis assumption that there is an underlying meaning and structure in the way we talk and write. As such, Leximancer can assist in extracting meaning from large volumes of text.

The software works by generating ‘concepts’ that characterizes the text data using information about co-variance between high-frequency words. In other words, Leximancer provides an objectively derived framework from the analysed texts, which can then facilitate researcher-driven qualitative interpretation. The recommended Leximancer procedure was followed, using the default discovery mode to explore the generated concepts (Leximancer Manual 2011; Smith & Humphreys, 2006).

It is vital to note that a Leximancer concept is *not* to be confused with a theoretical concept. Instead, a Leximancer concept is a set of words that are used in conjunction with each other by authors. The software places the components of each concept in a “thesaurus”. The thesaurus contains the set of associated words and weightings which indicate the words’ relative importance in the concept generation. Each two-sentence block of text is then assessed to ascertain whether it contains sufficient evidence of the concept and if so is so coded by Leximancer. Simple post-analysis intervention in the Leximancer coding was undertaken in order to omit words such as ‘vol.’, ‘pp.’ and ‘table’.

Table 1 (below) illustrates the 11 most frequent Leximancer concepts. ‘*Relationship*’ and ‘*relationships*’ are in first (11655) and second (10699) place respectively. ‘*Interaction*’ is counted 5089 times. It is thus discussed to a lesser degree than the notion of relationships, and also ‘customer’ and ‘network’. Interestingly, interdependence does not feature as one of the most frequent concepts.

Table 1: The 11 most frequent Leximancer concepts and related thesauri

	Concepts	Frequency	Thesaurus
1	Relationship	11655	Termination, terminate, commitment-trust
2	Relationships	10699	Buyer-seller, customer-supplier, dyadic
3	Business	9316	Impediments, internationalising, network-embedded
4	Research	8444	Future, limitations, qualitative, abductive
5	Customer	7343	Retention, outcome-based, customer-focused
6	Value	6598	Creation, co-creation, mindset, service-dominant, value-in-use
7	Network	6029	Pictures, bipartite, node
8	Study	5829	Exploratory, explorative, cross-case
9	Marketing	5591	Project-based, contemporary-marketing-practice, commitment-trust
10	Customers	5297	Retaining, non-contractual
11	Interaction	5089	ARA, three-way, modalities

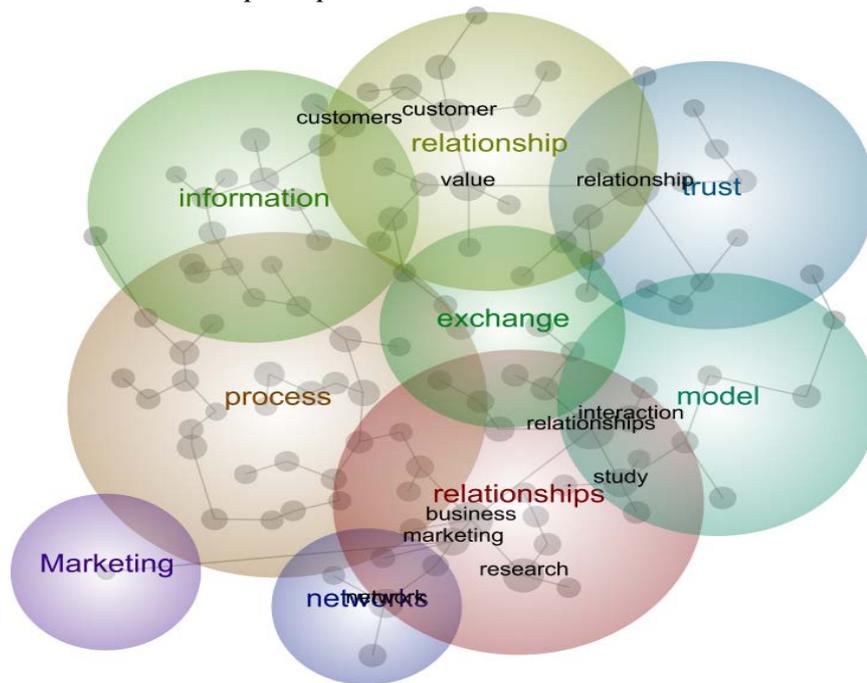
Taking a closer look at the various thesauri of the eleven Leximancer concepts listed in Table 1 gives quick insight to the thematic differences in the B2B literature. For example, the thesaurus related to the Leximancer concept ‘relationship’ concerns the issue of ‘termination’ and ‘commitment-trust’. By contrast, the thesaurus of the Leximancer concept ‘relationships’ place focus on business conducted between a buyer and seller or between a customer and supplier. Further, the thesaurus word ‘dyadic’ as related to ‘relationships’ lead us to classify this part of the B2B literature concerned with marketing practices closely related to specific types of partners.

It is also possible to relate the eleven most frequent concepts to each other. This is illustrated in the Leximancer Concept Map in Figure 3. In Leximancer, the frequency of co-occurring concepts is measured, weighted and clustered to produce a two-dimensional map of concepts. The Concept Map provides an illustrative summary of the data. The summary includes themes depicted as coloured circles containing clusters of interconnected concepts illustrated as small grey dots (in Figure 3 only the eleven most frequently occurring concepts also listed in Table 1 are labelled).

The map is interpreted by considering the nature of the concepts that are present and their relative position to each other. Proximate positions indicate similarity i.e. considerable overlap in the text that was coded as being both concepts during the Leximancer procedure. In other words, the positioning of concepts in the map reveals their connection. The eleven most frequent Leximancer concepts cluster in two themes: ‘relationship’ and ‘relationships’ taking names after the similarly named concepts.

The concept ‘relationship’ clusters with the concepts ‘customer’, ‘customers’ and ‘value’. Together these concepts build the theme ‘relationship’. The clustering of these concepts and their related thesauri as listed in table 1 add to our understanding of this part of the literature. The thesaurus of the concept ‘customer’ includes ‘retention’, ‘outcome-based’ and ‘customer-focused’ whereas the thesaurus of the Leximancer concept ‘value’ relates to e.g. ‘co-creation’, ‘service-dominant’ and ‘value-in-use’. This part of the B2B literature thus focuses on the co-creation of value to customers to retain relationships, build commitment and trust and to avoid or seek the potential termination of business relationships when relevant.

Figure 3: Leximancer concept map



The Leximancer concept ‘relationships’ is situated close to e.g. ‘business’, ‘marketing’ and ‘interaction’ in the theme ‘relationships’. Here the thesaurus reveals how ‘business’ relates to ‘impediments’, ‘internationalising’ and ‘network-embedded’ issues and ‘marketing’ relates to ‘project-based’ and ‘contemporary-marketing-practice’ in B2B, but also a similar focus on ‘commitment-trust’ as related to the Leximancer concept ‘relationship’. The Leximancer concept ‘interaction’ is built on the thesaurus words: ‘ARA’ (the actor-resource-actor model), ‘buyer-supplier’ and ‘modalities’ of interaction. Together, this collection of Leximancer concepts and related thesauri leads to an interpretation of this part of the B2B literature as more concerned with what drives/underpins relationships between specific actors.

Besides the ‘relationship’ and ‘relationships’ themes in which the eleven most frequent Leximancer cluster, the Concept Map in Figure 3 depicts seven other themes: *Process* (referring to various processes of e.g. socialisation, networking or implementation), *Information*, *Exchange* (concerning exchange partners, social exchange or behavioural and relational exchange), *Model* (theoretical models built, developed or discussed), *Trust* as well as *Networks* and *Marketing* situated in the lower left part of the map. In the further analysis of the Leximancer coding, the themes illustrated in the map in Figure 3 will assist us in interpreting how different streams of B2B in different ways utilise and conceptualise interaction and interdependence.

Summing up, the preliminary Leximancer analysis of the 365 articles included in our EndNote library, hints at how the notion of interaction is more closely embedded in and related to discussions of the characteristics and practices of relationships between specific actors (i.e. suppliers and buyers) in business marketing. On the other hand, discussions of interaction focus to a lesser extent on how this interaction creates value to e.g. customers.

Notably, interdependence does not reveal itself as a frequent occurring Leximancer concept in the default software procedure used in the analysis. ‘Interdependence’ as a concept in IMP has a different starting point and development within the community (Freytag et al, 2017). However, user initiated programming is available in Leximancer which may guide us

in further investigations of how interdependence in the general B2B marketing literature relates to the more frequent used concepts.

NEXT STEPS

For the final version of the paper proposed here, we will perform two additional steps in order to deepen our Analytical Review. First, we intend to examine in more detail how the two concepts have developed in the literature. This part of the analysis is to deliver a more detailed understanding of how the conceptualisation of interaction and interdependence has developed over time. We aim to gain insight into how the concepts have been influenced by different fields of academic discussions. Secondly, we plan to discuss how the general understanding of interdependence and interaction in B2B marketing literature - as explicated in the above Leximancer supported (and preliminary) analytical review - relates to the IMP literature. This comparative discussion will facilitate us in assessing the impact of the two concepts, both with IMP and the wider B2B literature and thus providing a ground for discussing IMP's uniqueness and place in the B2B community in a business world in which all companies have relationships.

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