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## Effects of Partners' Communications on Consumer Perceptions of Joint Innovation Efforts

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**Bram Roosens\***

University of Antwerp, Prinsstraat 13, 2000 Antwerp, Belgium.  
E-mail: bram.roosens@uantwerpen.be

**Nathalie Dens**

University of Antwerp, Prinsstraat 13, 2000 Antwerp, Belgium.  
Antwerp Management School, 2000 Antwerp, Belgium.  
E-mail: nathalie.dens@uantwerpen.be

**Annouk Lievens**

University of Antwerp, Prinsstraat 13, 2000 Antwerp, Belgium.  
E-mail: annouk.lievens@uantwerpen.be

\* Corresponding author

**Abstract:** This article assesses the effects of aligning co-creation partners' communications on consumers' perceptions of joint innovation efforts. Two online experiments are conducted. Study 1 (n=201) investigates message content alignment (partners stating identical versus complementary messages) and visual alignment (partners assimilating the visual design of their communications versus autonomous designs). Results reveal a positive effect of using complementary over identical message content on consumers' perceptions of the co-created product. The latter effect is reinforced by autonomous visual designs. Study 2 (n=137) shows that the effect of content alignment on both the lead firm and co-creation partners are mediated by the perceived fit between partners and the perceived corporate credibility of the lead firm. This research is one of the first to study effects of communication by multiple co-creation partners and demonstrates the positive effects of adequately aligning partners' communications about joint innovation efforts.

**Keywords:** Communication; co-creation; partners; partnership; innovation; message content; visual design; alignment; partner fit; relational embeddedness

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### 1 Introduction

Organizations today increasingly rely on collaboration with external stakeholders to develop (co-create) innovations (Leonidou et al., 2018, Hamadi et al., 2018, Hammarfjord and Roxenhall, 2017, Reypens et al., 2016, West and Bogers, 2014). Co-creation partners can play an important role during all stages of the innovation process, as they collaborate

and communicate in order to achieve both individual and joint innovation goals (Reyppens et al., 2019, Levén et al., 2014, Aarikka-Stenroos and Sandberg, 2012). This paper addresses whether and how co-creation partners can best align their communications about joint innovation efforts to enhance consumer perceptions about the partnership, the co-created innovation and the different partners.

Extant research demonstrates that communication about joint innovation efforts can benefit all partners involved. Consumers would develop more positive perceptions about companies ('lead firms') that collaborate with customers (Liljedal, 2016, Fuchs et al., 2013, Schreier et al., 2012), non-profits (Roosens and Dens, 2019, Vock et al., 2013), or a combination of different stakeholders (Kazadi et al., 2015). The partners, too, may benefit (Irmak et al., 2015, Lafferty and Edmondson, 2014). In most prior studies, the lead firm takes the communication initiative, while in reality, consumers can receive information from either the lead firm or its partners (or both). These communications by partners also play a role in influencing consumers' attitudes towards the co-created innovation, the partnership as a whole and each of the partners. Apart from a few studies on communications by customers involved in the co-creation process (Gebauer et al., 2013, Kozinets et al., 2010), there is little research on how communications by co-creating stakeholders influence consumer perceptions. A recent study by Roosens et al. (2019) provides initial evidence that the alignment of marketing communications of (two) partners about a co-creation project can enhance consumers' perceptions about the partners and their products. They show that partners mutually explicitly referring to each other positively impacts consumers' purchase intention and willingness to pay for the innovation. Mutual referencing is just one way in which partners can align their communications. A notable gap in extant research relates to how co-creation partners can better align what they communicate about their partnership.

Based on extant research on integrated marketing communications (IMC), we investigate whether it is, additionally to explicitly referring to each other, beneficial that two partners reach out with one and the same message. While the idea of "one consistent message" is advocated in a spirit of IMC for a firm's own communications (Keller, 2001), the question is whether this is also effective when multiple co-creation partners concurrently communicate. We conceptualize the idea of "one message" through both the content of the communications and their visual design. In two experimental studies, we study how complimentary message contents (i.e., the partners provide distinctive, but not conflicting, information about the partnership and the co-created innovation) versus identical message content, and autonomous versus identical visual designs influence consumer perceptions about the co-created innovation, the partnership as a whole and each of the partners.

As such, this paper aims to build the bridge between research on marketing communications and innovation co-creation. Our two studies contribute to the marketing communications literature by testing whether principles of integrated marketing communications also apply to communications by co-creation partners. Our research extends innovation studies on co-creation that indicate that communication plays a crucial role for the adoptions of new products (Moreland and Hyland, 2013, Talke and Snelders, 2013) by examining the potential impact of communications by co-creation partners. As a result, we contribute to a better understanding of how proper alignment of communications by multiple co-creation partners contributes to positive partnership perceptions. Our results

provide guidelines for managers in aligning their co-creation communications with those of co-creation partners.

## **2 Literature review and hypotheses development**

Open innovation and co-creation have received great attention in both academia and practice in recent decades (West and Bogers, 2014, Garcia Martinez et al., 2014, Enkel et al., 2009, Rohrbeck et al., 2009). Studies show that the interactions with a variety of stakeholders create value for both firms (e.g. increased sales) and consumers (e.g. better products/services) (Vargo and Lusch, 2016, Fuchs et al., 2013). Extant research on open innovation and co-creation mainly studied how to successfully manage the collaboration process in relation to innovation performance and firm's growth or profitability (Garcia Martinez et al., 2014). However, innovation research provides evidence that marketing communications play an important role in new product adoption by consumers (Heidenreich and Kraemer, 2016). Understanding how to advertise and promote (co-created) innovations in a way that reduces consumer resistance and enhances the appreciation of novel benefits is crucial (Bertele et al., 2015, Linder and Seidenstricker, 2016). For example, Talke and Snelders (2013) show that communicating product-related information in launch messages enhances consumers' purchase intention and willingness to pay for high-tech products. A number of studies indicate that informing consumers that a new product is co-created (with customers) improves their responses (Kazadi et al., 2015, Dahl et al., 2014, Schreier et al., 2012). In practice, we see that companies and their partners regularly communicate about collaboration activities. Google, for example, continuously shares how they co-create services and other types of value with other companies, customers, non-profits, research centers, etc. In the medical sector, GSK collaborates with various third parties worldwide to develop innovative medicines, and announces these partnerships via news items, press releases and their social media channels.

According to the literature on IMC, companies should aim to strategically coordinate all their communications, to obtain synergetic effects of communications via different channels and sources on consumers' perception about the company and its offering (Gurau, 2008, Kitchen et al., 2008). Prior research has mostly considered the principles of IMC from the perspective of a single company. However, the involvement of (multiple) partners in a co-creation context increases the challenges: companies should also consider their partners' communication in designing their communication strategy, as what and how partners communicate about them will affect their corporate/brand image (Roosens et al., 2019). In general, consumers prefer to base their evaluations on information from different sources, rather than to believe what a single source tells them (López and Sicilia, 2013, Moore et al., 1994, Harkins and Petty, 1987). They will therefore not only attach importance to what a lead firm communicates about co-creation efforts, but also to what the partners communicate.

### *2.1 The effect of message content alignment on corporate credibility and attitude toward the co-created innovation*

An important question in designing communications is whether a firm should consistently tell the exact same story, or should use variations of the same theme. Learning Equality, a non-profit aiming to enable every person in the world to realize their right to a quality education, simply copies communications about co-creation activities with Google in their press center (Learning Equality, 2019, Strecker, 2019). UNICEF and ARM, issued a joint press release to announce their co-creation partnership (Unicef, 2015). Save the children, a non-profit focusing on treatments for children's diseases, in turn, independently developed its own communication about its partnership with GSK (GSK, 2019, Save The Children, 2019). According to Keller (2001), the theory can support both strategies (joint or independent communications). On the one hand, repeated exposure to the same information improves the accessibility and consistency of this information in consumers' minds, which can lead to positive effects because of fluency. On the other hand, message complementarity can lead to a more diverse set of positive associations with the firm (Keller, 2001). In a co-creation context, it is untested how two co-creation partners should align their message content: reach out with one identical message or both tell their own story (i.e., complementarity messages).

In extant research, we find support for both strategies. Recent advertising research on co-branding provides evidence that partners better chose to communicate an identical message content because dissimilarities between innovation partners negatively affect buyers' attitude towards the partnership (Decker and Baade, 2016, Cunha et al., 2015). Furthermore, academic literature refers to the existence of a so-called 'truth effect' stating that repeating arguments increases people's belief that these arguments are valid (Dechêne et al., 2010). If a lead firm and its partner(s) mention the exact same arguments, the information is essentially repeated and the claims would seem more credible.

On the other hand, when co-creation partners use complementary content to the lead firm's, people can make their own associations about the product benefits based on different sources (Micu and Thorson, 2008). Consumers perceive that information from multiple sources is more likely to be based on different perspectives and independent pools of knowledge and, thus, more worthy of diligent consideration (Harkins and Petty, 1987). When co-creation partners issue identical messages, consumers may perceive these messages as coming from one source, or even as hidden advertising. Consumers are more likely to trust the opinions of independent others than they are to trust advertising, especially online (Litvin et al., 2008). If partners use identical messages, they may be perceived as less independent of each other, or even as one and the same organization. With complementary message content, a co-creation partner demarcates himself from the firm, and consumers will perceive him as a more independent, outside party. The partner nevertheless still endorses the firm by stating what value the firm helped them to create through the collaboration. We expect that this endorsement should positively impact the corporate credibility of the firm, and hence consumers' attitude toward and willingness to pay for the co-created innovation (Roosens et al., 2019).

*H1: Complimentary message content in the communications by co-creation partners leads to an increase in the perceived corporate credibility of the lead firm, and hence*

*enhances (a) consumers' attitude towards and (b) willingness to pay for the co-created innovation.*

## *2.2 The moderating role of visual alignment*

In addition to the content of a message, visual elements such as images, colors or typefaces should also be taken into account as a way to align communications (Phillips et al., 2014). The visual design (layout, images, color scheme, images, fonts) of an organization's marketing communications influences consumers' perceptions of the organization (Bolhuis et al., 2015). A co-creation partner's decision to assimilate its design to the lead firm's or to apply an autonomous visual design (consciously or unconsciously) communicates how the partners relate to each other. Diverging visual designs help consumers to differentiate separate organizations from each other (Melewar et al., 2005). Therefore, if a partner's visual design is sufficiently different from the lead firm's, the communication will further strengthen the perception of both partners as independent communication sources induced by complementary message content.

*H2: The positive effect of complimentary message content on the corporate credibility of the lead firm, as formulated in H1, is greater when co-creation partners design their communications with autonomous visual designs than with an identical visual design.*

## *2.3 Explaining the effect of alignment on corporate credibility*

In the above, we argue that firms benefit from applying a complementary message content strategy based on the "multiple source" effect. At the same time, the similarity and "truth" effect would argue in favor of identical message content. These two competitive mechanisms merit further exploration.

First, research by Roosens et al. (2019) in the context of concurrent communication by co-creation partners shows that the perceived relational embeddedness of partners (the strength of the ties between partners regarding collaboration and information sharing, Rindfleisch and Moorman, 2001) has a strong impact on the corporate credibility of co-creation partners. When reading about a co-creation partnership, consumers will form a perception about how strong these ties between partners were in order to be able to develop the new product (Roosens et al., 2019).

Partners issuing identical messages signal a smooth cooperation, satisfying to both parties. Partners issuing autonomous messages may signal that the partners should be considered as independent and are less committed to the partnership. Complementary message content will thus hurt the perceived relational embeddedness of co-creation partners. A decrease in perceived relational embeddedness, in turn, will lead to a decrease of the corporate credibility, both in terms of trustworthiness and expertise, of the firm (Roosens et al., 2019, Samuel et al., 2016).

*H3: A decrease in the perceived relational embeddedness between the co-creation partners due to complementary (versus identical) message contents will competitively*

*mediate the effect of message content alignment on (a) the corporate credibility of the lead firm, and (b) consumers' attitude towards the co-created innovation.*

On other hand, a complementary message content communication strategy can have a positive impact on how consumers perceive the compatibility between the firm and the co-creation partners. Complementary message content authorizes every partner to provide information how this fit is attained for them, and in particular how the partnership fulfilled (some of) their strategic needs. The two different messages underpin that both partners independently believe that the co-creation partnership was a good fit to obtain what they wanted. We therefore expect that complementary messages will lead to a more positive perception of consumers about the fit between the firm and the co-creation partners. Subsequently, literature on brand alliances extensively supports the positive effects of consumers perceiving a good fit between allies on the brands involved (Lafferty and Edmondson, 2014, Li and He, 2013).

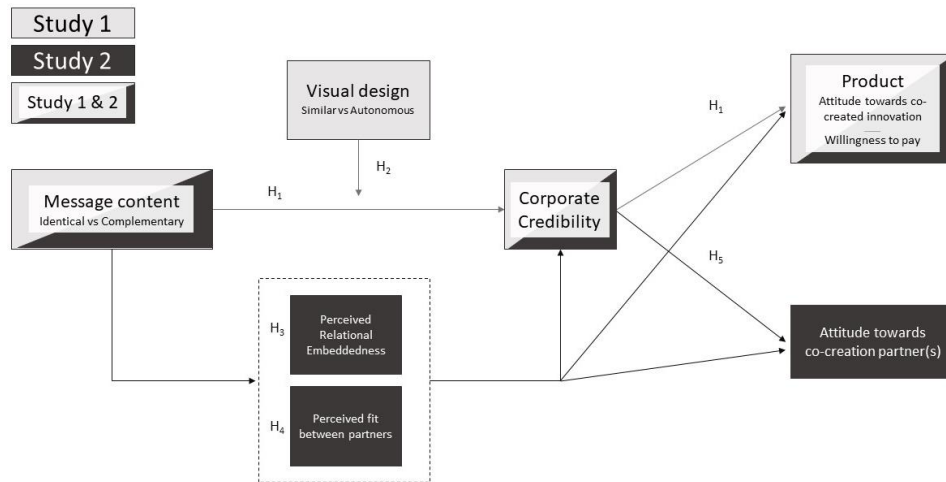
*H4: An increase in the perceived fit between co-creation partners due to complementary (versus identical) message content will complimentarily mediate the effect of message content alignment on (a) corporate credibility, and hence attitude towards (b) the product positively.*

#### *2.4 Effect of an increase in corporate credibility on co-creation partner(s)*

Earlier, we hypothesized that communications with complementary message content will positively impact the corporate credibility of the firm. In line with Associative Network Theory, we expect also the other partner(s) to benefit from this communication strategy. Communications by multiple stakeholders will reinforce the associations between the co-creation partners. Associative Network Theory posits that if a strong link between organizations exists in consumers' minds, a transfer of affect from one organization to the other will occur (Van Osselaer and Janiszewski, 2001, Anderson and Bower, 1973). The enhanced corporate credibility of the lead firm will then benefit consumers' attitude towards its co-creation partner(s), especially for partners like non-profits or research institutions/university where credibility (trustworthiness and expertise) is an essential part of their image (Roosens and Dens, 2019, Bigné-Alcañiz et al., 2012). Literature on so-called spillover effects, stating that associations from one partner can "spill over" to another supports this idea of attitude transfer between partners (e.g. Voss and Gammoh, 2004, Lafferty et al., 2004).

*H5: The positive effect of complimentary message content on the corporate credibility of the lead firm, as formulated in H1, will also positively impact consumers' attitude towards the other co-creation partners.*

**Figure 1** Conceptual framework with overview of studies



### 3 Study 1

#### 3.1 Method

In our first study, we adopted a 2 (message content alignment: complementary (different) content vs identical) x 2 (visual alignment: individually autonomous vs identical) between-subjects experimental design. We designed website newsfeeds introducing a new co-created tablet for both the firm and a co-creation partner, supposedly posted on their own website. As such, each partner informed consumers of their participation in co-creation activities and how this created value for end users. The choice for a tablet is motivated by the fact that co-creation is widely applied for consumers electronics (Enkel et al., 2009). The firm was a fictitious technology manufacturer, the co-creation partner a non-profit organization, said to be active in making technology available around the world.

The message content was manipulated by differentiating the benefits of the co-creation activities a partner considered. In the ‘complementary message’ condition, both partners communicated a different message underlining different benefits (pertaining to the same attributes), i.e. the benefits they considered as most important from their perspective (e.g., battery: lead firm: shorter charging time, co-creation partner: rechargeable by solar energy). In the ‘identical message’ condition, both partners communicated the same benefits to their customers (e.g. firm and co-creation partner: battery with shorter charging time and rechargeable by solar energy) in a very similar news item (only introduction differed between partners). In sum, all respondents were exposed to all benefits (as a proxy for argument quantity), independent of the condition. We only manipulated per condition who communicated which benefits. For the visual design, we manipulated the visual elements of the two newsfeed of the co-creation partner to visually match better or worse.



..... In the identical visual design condition, both newsfeeds shared an identical color scheme, layout and font, and included identical pictures. In the autonomous visual design condition, this was not the case.

The experiment was conducted online. A sample of Flemish participants was recruited from the consumer panel of a professional market research agency via e-mail. After some quality control tests, we had a final sample of 201 participants (54% female,  $M$  age = 42 years,  $SD$  age = 14 years, 59% higher education).

After the welcome page, participants were asked about the perceived fit between a technology firm and several stakeholder types, including a non-profit organization, for co-creation activities (Table 1). Next, they were randomly assigned to one of the four conditions and read the two website newsfeeds containing the manipulations, in a random order. After reading both articles, participants completed the measures for the manipulation checks, moderators, mediators and dependent variables (see Table 1). With the exception of willingness to pay, all variables were measured on multi-item 7-point Likert or semantic differential scales. The willingness to pay for the co-created innovation was measured using a slider with a maximum amount of 1000 EUR ( $M$  = 318.12,  $SD$  = 160.05). Attitude towards the web design was included as a control variable. Finally, participants reported their age, gender and level of education.

**Table 1** Measures (Study 1)

<i>Measured variable</i>	<i>Cronbach's Alpha</i>	<i>Nr. of items</i>	<i>Items</i>
Perceived fit between a technology firm and a non-profit for co-creation of innovation (Bower and Grau, 2009)	$\alpha = .968$	3	In general, to develop a new technological product, a technology firm and a non-profit (1-7): <ol style="list-style-type: none"> <li>1. do not belong together / belongs together</li> <li>2. do not go together / go together</li> <li>3. do not fit together / fit together</li> </ol>
Attitude towards the co-created innovation (adapted from Tybout et al., 2005)	$\alpha = .938$	7	Please express your attitudes toward the co-created product described in the news item (1-7): <ol style="list-style-type: none"> <li>1. unfavorable / favorable</li> <li>2. unreliable / reliable</li> <li>3. low quality / high quality</li> <li>4. bad / good</li> <li>5. outdated technology / cutting edge technology</li> <li>6. not durable / durable</li> <li>7. simple / sophisticated</li> </ol>
Perceived corporate credibility of the lead firm (Roosens et al., 2019)	$\alpha = .927$	6	Please indicate to which degree you disagree/agree with the following statements (1-7): <ol style="list-style-type: none"> <li>1. The company makes highly innovative products</li> <li>2. The company has the capacity to make very original products</li> </ol>

			<ol style="list-style-type: none"> <li>3. The company makes highly interesting products</li> <li>4. I trust the company</li> <li>5. The company makes truthful claims</li> <li>6. The company is honest</li> </ol>
Willingness to pay (Roosens et al., 2019)	NA	NA	Please indicate the maximum price you would be willing to pay for a mobile phone of STC, including the new innovations that were mentioned in the news item (rounded to one dollar)
Perceived alignment of the visual design (Roehm and Roehm Jr, 2011) (manipulation check)	$\alpha = .932$	3	The design of the two websites of the partners are (1-7): <ol style="list-style-type: none"> <li>1. unsuitable / suitable</li> <li>2. inconsistent / consistent</li> <li>3. incongruent / congruent</li> </ol>
Attitude towards the web design of lead firm/co-creation partner	$\alpha = .909 / \alpha = .910$	3	To which degree do you agree/disagree with the following statements? (1-7): <ol style="list-style-type: none"> <li>1. The website of [name] is visually appealing</li> <li>2. The website of [name] looks professional</li> <li>3. I like the design of the website of [name]</li> </ol>

### 3.2 Results

As intended, the newsfeeds with an identical visual design were perceived as significantly more visually identical ( $M=5.65$ ,  $SD=1.21$ ) than the newsfeeds with an autonomous visual design ( $M=4.73$ ,  $SD=1.42$ ,  $F(1, 199)=-5,024$ ,  $p<.001$ ). Moreover, a t-test confirmed that there was no significant difference in attitude towards the web design between the firm and the co-creation partner ( $M_{\text{firm}}=4.88$ ,  $SD_{\text{firm}}=1.19$ ,  $M_{\text{partner}}=4.93$ ,  $SD_{\text{partner}}=1.23$ ,  $p=.564$ ), which rules out a potential confound by differences in design between conditions.

To test the hypotheses, we ran a moderated mediation analysis in IBM SPSS Statistics 25, based on Hayes' PROCESS macro v3.0 (Hayes, 2017), using bootstrapping (number of bootstrap replicates: 5000). The independent variable, message content alignment, was treated as a dummy variable (0= identical message content, 1= complementary message content) based on our manipulation. We included the perceived corporate credibility ( $M=4.99$ ,  $SD=.81$ ) as a mediator, and a dummy variable for visual alignment (0= autonomous visual design, 1= identical visual design) as a moderator. We included the perceived fit between a technology firm and a non-profit for co-creation activities as a covariate (Dickinson and Heath, 2008). Tests of normality and heteroscedasticity revealed that our dependent variable willingness to pay was positively skewed. To deal with this positive skewedness, we transformed willingness to pay using a logarithmic transformation (Manning and Mullahy, 2001, Roosens et al., 2019).

The results (Table 2) show a marginally significant positive effect of complementary message content on perceived corporate credibility ( $\beta=.307$ ,  $t(196)=1.94$ ,  $p=.053$ ). The effect of perceived corporate credibility on willingness to pay is positive and significant

( $\beta=.170$ ,  $t(195)=4.44$ ,  $p<.001$ ). As a result, we find a significant indirect positive effect of complementary message content on willingness to pay (.052, 95%CI=[.0016;.1857]). We can confirm H<sub>1b</sub>. As the direct effect of complementary message content on willingness to pay is insignificant ( $\beta=.061$ ,  $t(192)=1.02$ ,  $p=.311$ ), our results demonstrate an indirect-only mediation (Zhao et al., 2010). A similar moderated mediation analysis with attitude towards the co-created innovation revealed the same results. Complementary message content had a marginally significant positive effect on perceived corporate credibility ( $\beta=.307$ ,  $t(196)=1.94$ ,  $p=.053$ ), which in turn positively affected consumers' attitude towards the co-created product ( $\beta=.831$ ,  $t(195)=15.77$ ,  $p<.001$ ), confirming H<sub>1a</sub>.

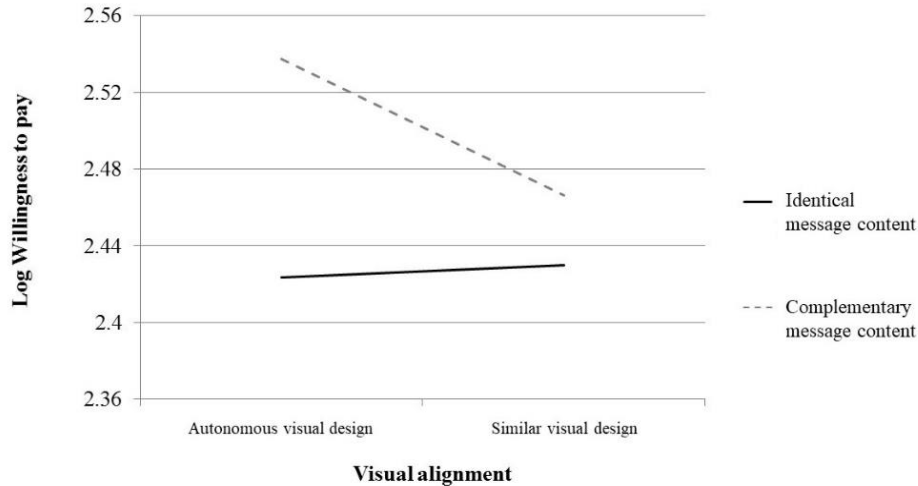
**Table 2** Unstandardized regression weights (Study 1)

	<i>Corporate credibility</i>	<i>Attitude towards the co-created innovation</i>	<i>Log Willingness-to-pay</i>
Message content alignment (1 = complementary)	.307 <sup>o</sup>	- .012	.061
Corporate credibility		.831***	.170***
Visual alignment (1 = identical)	.037	- .017	.006
Message content alignment * Visual alignment	- .103	.048	- .054
Fit between partner types (covariate)	.074*	.021	.017
R <sup>2</sup>	.0462	.5765	.2441

Note: \*\*\*  $p \leq .001$ , \*\*  $p \leq .010$ , \*  $p \leq .050$ , <sup>o</sup>  $p \leq .100$

We do not find the anticipated interaction effect between message content alignment and visual alignment, neither on corporate credibility ( $\beta=-.103$ ,  $t(196)=-.45$ ,  $p=.652$ ), nor on willingness to pay ( $\beta =-.054$ ,  $t(192)=-.62$ ,  $p=.533$ ). However, an investigation of the conditional indirect effects of message content alignment on willingness to pay reveal that the positive effect of complementary message content on consumers' willingness to pay for a co-created innovation is significant only when the visual design of the communication is also autonomous ( $\beta=.052$ , 95%CI=[.0016;.1857]), and insignificant when the visual design is identical ( $\beta=.035$ , 95% CI=[-.0032;.1296]) (see Figure 2). Our results thus provide indications that visual alignment can moderate the effects of message content alignment on willingness to pay, as hypothesized in H<sub>2</sub>, but message content alignment clearly has the strongest impact on corporate credibility (see Table 2).

**Figure 2** Interaction effects of message content and visual alignment on willingness-to-pay



### 3.3 Discussion

The results of this study provide initial evidence that the alignment of communications between a lead firm and a co-creation partner has a significant influence on how consumers perceive the co-created innovation. It is, however, not entirely clear what mechanisms the positive effect of complementary messages on corporate credibility. In Study 2, we investigate two potential mediating variables that can explain the effect: the perceived relational embeddedness and the perceived fit between the partners. Respondents in the “identical message condition” also read the same message twice. In Study 2, we add a condition with a single message to avoid the repetition. Furthermore, Study 1 only included outcome variables relevant for the (lead) firm. It is relevant to explore whether complimentary message content also benefits the other stakeholders involved. We will test this in a second experimental study, described in the next section.

## 4 Study 2

### 4.1 Method

In Study 2, we investigated the effects of message content alignment of a triadic partnership between a firm, a non-profit and a university. We set up a between-subjects experimental design with three conditions: (1) complementary message content from all three partners (2) identical message content from all three partners, and (3) a control condition in which the three partners communicated through a single, joint news item. The partnership was built upon the co-creation of a monitoring wristband to test blood alcohol concentration which users can connect to their phone or smartwatch. The partnership was

fictitious to avoid potential confounds due to prior exposure. The supposed co-creation partners were a technology manufacturer (BACtrack), a fictitious non-profit that promotes public health (Wemos), and research groups in medicine and ICT of the University of Wageningen. The firm and university were real, but not active in the country of study.

To improve the external validity of the experiment, respondents in every condition had to read five news items, in a random order. In the complimentary message content condition, respondents read three news item (one of each partner), each referring to the value created from the perspective of the issuing partner. The news item of the firm focused on the technological innovativeness of the product, that of the non-profit on the fact that they could use the new product for their awareness campaigns, and that of the university highlighted how the co-creation project created a unique opportunity for students to learn to develop such a device and that the wearable was also used for academic research. These were interspersed with two filler items unrelated to the project. In the 'identical message content' condition, respondents also read three news items (one of each partner), but they all contained the same content (a combination of the benefits described above). The two filler items were the same as in condition 1. As the aim of this experiment is to further explore the effect of message content alignment, we opted for a neutral visual design for all news items across conditions 1 and 2. Finally, respondents in the control condition (3) read one joint news item by the three partners (identical to the news items in condition 2), combined with four filler items. Participants in all conditions thus were exposed to the same arguments through the news items, only the way in which information was presented differed between conditions.

The experiment was conducted online. In total, a sample of 185 people, mostly Dutch-speaking students, completed the experiment. After quality control tests similar to the ones used in Study 1, a final sample of 137 participants was used for analyses (59% female,  $M$  age = 24 years,  $SD$  age = 5 years, 85% higher education). Participants were randomly assigned to one of the three conditions. After reading the news items, they completed the measures for the manipulation checks, mediators and dependent variables. As in Study 1, all variables were measured on multi-item 7-point Likert or semantic differential scales. We included all scales in Table 3. Finally, participants reported their age, gender and level of education.

**Table 3** Measures (Study 2)

<i>Measured variable</i>	<i>Cronbach's Alpha</i>	<i>Nr. of items</i>	<i>Items</i>
Perceived fit between the co-creation partners (Till and Busler, 2000)	$\alpha = .941$	3	For the creation of the product BACtrack Skyn, the three innovation partners [names] (1-7): <ol style="list-style-type: none"> <li>1. do not belong together / belong together</li> <li>2. do not go together / go together</li> <li>3. do not fit together / fit together</li> </ol>
Attitude towards the non-profit (Irmak et al., 2015)	$\alpha = .786$	4	The non-profit Wemos is an organization that (1-7): <ol style="list-style-type: none"> <li>1. I do not like at all / I like very much</li> <li>2. does unimportant work / does important work</li> <li>3. I would definitely not support / I would definitely support</li> <li>4. is not at all legitimate / is very legitimate</li> </ol>
Attitude towards the university (adapted from Pérez and Torres, 2017)	$\alpha = .847$	5	What perception do you have of the university of Wageningen? (1-7): <ol style="list-style-type: none"> <li>1. It is an innovative university / It is a traditional university</li> <li>2. It is an updated university / It is a university not updated</li> <li>3. It has a good prestige / It has no prestige</li> <li>4. It has a good reputation / It has a bad reputation</li> <li>5. It is a very positive Institution / It is a very negative Institution</li> </ol>
Perceived relational embeddedness (Roosens et al., 2019)	$\alpha = .707$	4	Please rate the degree to which the following items accurately describe the nature of the overall relationship between the 3 partners participating in the innovation partnership (1-7): <ol style="list-style-type: none"> <li>1. It seems that the partners feel indebted to each other for what they have done for each other.</li> <li>2. The engineers of the firm share close social relations with the engineers of the partners in this partnership.</li> <li>3. The relationship between the partners can be defined as "mutually gratifying."</li> <li>4. I expect that the partners will be working together far into the future.</li> </ol>

Attitude towards the co-created innovation (adapted from Tybout et al., 2005)	$\alpha = .822$	7	See Table 1
Perceived corporate credibility (Roosens et al., 2019)	$\alpha = .816$	6	See Table 1
Brand familiarity	NA	NA	To what degree were you familiar with the firm/the co-creation partner before your participation to this research? (1-7): totally unfamiliar / totally familiar
Perceived similarity between news items (manipulation check)	$\alpha = .741$	2	To which degree do you perceive that the news items about the wearable with alcohol monitor (1-7): 1. Look like each other? 2. Contain the same information?

#### 4.2 Results

As expected, the company ( $M=1.14$ ,  $SD=.47$ ), non-profit ( $M=1.12$ ,  $SD=.43$ ) and university ( $M=1.46$ ,  $SD=.98$ ) were highly unfamiliar to respondents. As intended, the news items in the complementary message content condition ( $M=4.66$ ,  $SD=1.26$ ) were perceived as significantly less similar than the news items in the identical message content condition ( $M=5.60$ ,  $SD=1.23$ ,  $t(92)=3.678$ ,  $p<.001$ ).

We ran three mediation analyses (model 6) in IBM SPSS Statistics 25, based on Hayes' PROCESS macro v3.0 (Hayes, 2017), using bootstrapping (number of bootstrap replicates: 5000), with respectively the attitude towards the co-created innovation, attitude towards the non-profit and attitude towards the university partner as the dependent variables. In all three analyses, the perceived relational embeddedness ( $M=5.14$ ,  $SD=.68$ ) ( $H_3$ ) and perceived fit between partners ( $M=5.52$ ,  $SD=.92$ ) ( $H_4$ ) were included as first-step parallel mediators, and the perceived corporate credibility ( $M=5.27$ ,  $SD=.68$ ) as the second-step serial mediator (see Figure 1). The independent variable was a multicategorical variable including the three conditions (0= identical message content, 1= complementary message content, 2= control group – joint news item).

The results (Table 4) show that complementary message content does not lead to a significant increase in the perceived relational embeddedness between partners in comparison to identical message content ( $\beta=.210$ ,  $t(134)=1.51$ ,  $p=.135$ ). Although perceived relational embeddedness is found to have a strong effect on the corporate credibility of the firm ( $\beta=.352$ ,  $t(132)=4.33$ ,  $p<.001$ ), a serial mediation analysis finds no support for an indirect effect message content alignment on, via perceived relational embeddedness and corporate credibility ( $\beta=.037$ , 95% CI=[-.0086;.1034], insignificant as the 95% confidence interval does include 0). We can thus not support a mediation effect of perceived relational embeddedness as hypothesized in  $H_{3a}$  and  $H_{3b}$ . On the other hand, we do find a significant positive effect of complementary message content on the perceived fit between partners ( $\beta =.360$ ,  $t(133)=2.06$ ,  $p<.05$ ), which in turn positively affects the perceived corporate credibility of the firm ( $\beta=.186$ ,  $t(132)=3.06$ ,  $p<.01$ ). Furthermore, the

analysis shows a positive effect of corporate credibility on the attitude towards the co-created innovation ( $\beta=.362$ ,  $t(131)=3.74$ ,  $p<.001$ ). We find an indirect-only effect of complementary message content on attitude towards the co-created innovation explained by an increase in perceived fit between partners, and hence a higher corporate credibility of the firm, confirmed by a serial mediation analysis ( $\beta=.053$ , 95% CI=[.0114;.1190]). The perceived fit between partners also directly impacts attitude towards the co-created innovation ( $\beta=.240$ ,  $t(131)=3.43$ ,  $p<.001$ ), meaning there is an indirect positive effect of complementary message content via an enhanced perceived fit between stakeholders on attitude towards the co-created innovation, that goes not via corporate credibility as well ( $\beta=.086$ , 95% CI=[.0062;.1945]). These results support both H<sub>4a</sub> and H<sub>4b</sub>.

**Table 4** Unstandardized regression weights (Study 2)

	<i>Perceived relational embeddedness</i>	<i>Perceived fit between partners</i>	<i>Corporate credibility</i>	<i>Attitude towards the co-created innovation</i>	<i>Attitude towards the non-profit</i>	<i>Attitude towards the university</i>
Identical message content (baseline)						
Complementary message content	.210	.359*	.146	.076	.117	-.003
Single joint news item	.273 <sup>o</sup>	-.141	.063	.104	-.031	-.009
Perceived relational embeddedness		.516***	.352***	.089	.046	.227*
Perceived fit between partners			.186**	.240***	.304***	.200**
Corporate credibility				.362***	.309***	.486***
R <sup>2</sup>	.0283	.2006	.2811	.3166	.3222	.4207

Note: \*\*\*  $p \leq .001$ , \*\*  $p \leq .010$ , \*  $p \leq .050$ , <sup>o</sup>  $p \leq .100$

The indirect effects of complementary message content via perceived fit and corporate credibility is also positive and significant on both the attitude towards the non-profit (incl. corporate credibility:  $\beta=.021$ , 95% CI=[.0008;.0683]; excl. corporate credibility:  $\beta=.109$ , 95% CI=[.0104;.2312]), and the attitude towards the university partner (including corporate credibility:  $\beta=.033$ , 95% CI=[.0017;.0827]; excluding corporate credibility:  $\beta=.072$ , 95% CI=[.0027;.1630]). We can thus confirm H<sub>5</sub> as well.

These results also support our findings in Study 1, confirming H<sub>1</sub>, in that complimentary message content enhances consumers' attitude towards the co-created innovation. We show that the enhanced perceived fit between the partner is crucial in explain the benefits of complementary message content, both via an enhanced corporate credibility and directly affecting consumers attitude towards the innovation and co-creation partners.



## 5 General discussion

### 5.1 Conclusions

In line with extant literature in other research domains, our results show that how firms align their communication with that of co-creation partners has an effect on consumers' perceived fit between partners, the firm's corporate credibility, and hence consumers' perceptions about the co-created innovation and partners. Our results confirm a partner endorsement effect, in that consumers change their perceptions about the firm based on how a co-creation partner communicates about the collaboration with a firm (Roosens et al., 2019).

Extant research provided arguments both pro and contra using identical message content in communication by multiple partners. The results of Study 1 indicate that strong integration of the message content and visual design between a firm and its co-creation partner(s) (i.e. making it very similar), can have detrimental effects. Consequently, there seems to be an optimal degree of alignment of communication about co-creation by both partners. As indicated by previous research, it is important that the co-creation partner is perceived as an additional, independent source of information (Micu and Thorson, 2008). When the communication of the co-creation partner is too similar to that of the lead firm, they appear to be too interlinked, and the positive effects of endorsement by the co-creation partner disappear. The second study in this paper demonstrates that in the context of innovation partnerships, all actors involved benefit from communicating their own message, complementary to that of the other partners.

### 5.2 Theoretical contributions and managerial implications

Our study has several theoretical implications. First, our results support the results of several recent studies on the effects of communication about co-creation on adoption through perceived innovativeness (Kazadi et al., 2015) or perceived sincerity (Liljedal and Dahlén, 2015). We combined these two dimensions into a single construct, (perceived) corporate credibility, and explained that how organizations communicate about an innovation partnership influences the perceived fit between partners and hence the corporate credibility of the firm involved in the collaboration.

Second, we contribute to research on IMC, which mostly focuses on aligning communications from within the firm. Following the idea that firms should take into account all communication that influences their brand value (Kitchen et al., 2008), our results show that aligning the communication of the firm and its co-creation partner(s) can indeed influence consumers' perceptions and adoption decisions. Where earlier research could not provide a definitive answer on whether partners should communicate all identical or complementary messages, we contribute to this field by showing in two experiments with different products and number of partners that complementary message content leads to more positive effects.

This leads us to a number of managerial implications. First, we thus show that it is important for firms that engage in co-creation to take into account the communication of their co-creation partner(s) as part of their own communication strategy. Firms and their

partners are encouraged to send out their own news item, press release or advertisement, and not just copy the same message content for all partners, like in the example of UNICEF and ARM, who issued a joint press release to announce their collaboration . Platforms like Twitter or Facebook also enable organizations to just retweet/share online marketing communications of partner organizations and information about their partnership with a brand (Burton et al., 2017). Our results indicate that this could lead to negative effects, because consumers may no longer perceive the co-creation partner as an “independent”, additional source. Applying a ‘complementary message content’ strategy however has strong positive effects on how consumers perceive the fit between the firm and co-creation partners, and the co-created innovation. The fact that consumers value some distance between co-creation partners is an interesting factor to take into account when selecting partners for new product development as well. Earlier research already provides several arguments to select partners with different assets, resources and capabilities (Teece, 1986, Kazadi et al., 2016). These partners can help firms not only with developing an innovation, but also with gaining critical mass or providing access to (additional) market segments (Chiesa and Frattini, 2011, Talke and Salomo, 2009). Our results provide further evidence that partners can play a crucial role in one of the most challenging parts of innovation management, the diffusion of innovations (Rogers, 2010).

Co-creation partners like non-profits and universities (Alexander et al., 2015) can learn from this research that both for themselves as for their industry partners, it is better to communicate the value created for the own organization instead of copying the news item of the firm. People favor organizations that co-create value for all organizations in partnerships, and perceive it as more truthful if every actor communicates about what was valuable for them.

## **6 Limitations and further research**

There are several limitations to this study that could inspire future research. First, in our two studies we only examined a dyadic and triadic partnership. Firms increasingly collaborate with a large amount of partners in same innovation networks (Kazadi et al., 2016, Kim and Yoon, 2019, Franca, 2019). More co-creation partners will make IMC-strategies even more complex and bring additional challenges to communicate effectively about co-creation. Therefore, both the effects of communication by multiple stakeholders and the management of IMC in a network of diverse partners are compelling paths for future research.

Next, we used fictitious or unfamiliar organizations for both the firm and the co-creation partners, to enhance the internal validity of our research. We are aware that for familiar brands different effects might be found (Delgado-Ballester et al., 2012). Similarly, consumers’ reactions to co-created innovations differs between product types (Fuchs et al., 2013). Further examination of our findings for different product categories may be useful.

Finally, our research provides evidence that partners should make messages fairly different, but complementary, to be perceived as independent partners. However, possibly messages can also be too different. Earlier research shows that a strong link between partners is also beneficial, as it increases the perceived relational embeddedness of the

partners. New studies can thus explore if there is an optimal equilibrium between highlighting the link between both partners and be perceived as independent sources.

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